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BRITISH MEDICAL JOURNAL

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TOWARDS A SOLUTION OF THE TOBACCO-CANCER PROBLEM

BY

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Human Evidence

Statistical and epidemiological evidence linking smoking to cancer of the lung and also to cancer of other sites of the upper respiratory tract is so extensive that it hardly needs to be recited for the physician and the scientist who have followed these data. Sixteen separate investigations from seven different countries, studying smoking habits of over 6,000 patients with lung cancer, are all in agreement that lung-cancer patients smoke significantly more than any group of controls and that the relative risk of developing lung cancer rises in proportion with the amount of tobacco and particularly of cigarettes consumed. Two prospective studies, carried out in England and in the United States, that followed population groups whose smoking habits were known, also showed that the heavy cigarette smoker has a far greater chance of developing lung cancer than the non-smoker. In fact, the study by Hammond and Horn (1954 and personal communication) indicated that for a person smoking 40 cigarettes a day this chance was 70 times greater than for a non-smoker. To account for such magnitude of difference on the basis of statistical errors would require errors of equal magnitude. Such errors have so far not been demonstrated.

The belief that smoking is a major cause of lung cancer is not only based upon statistical evidence but it also is supported by the general epidemiological pattern of lung cancer. In countries, such as Great Britain and the United States, with a high cigarette consumption already 30 years ago, the present lung-cancer rates are high, while in countries, such as Iceland, where the cigarette consumption was low, the current rate of lung cancer is low. Among males in every country lung cancer is more common than among women. This fact has always presented a particular challenge. Any factor found to be significant statistically has to account, at least in part, for this sex difference. In a recent study we have shown that the present sex ratio of lung cancer is quite consistent with the long-term smoking habits of the two sexes. For instance, while some 20% of American males over the age of 50 smoke in excess of one packet a day, only 2% of the women in this age group smoke this amount. This study also showed that, among women who had smoked, the risk of developing epidermoid cancer of the lung or its undifferentiated types is about the same as that for men (Wynder *et al.*, 1956).

To consider smoking as a major cause of lung cancer does not mean that it is the only cause of this disease. Obviously there is the factor of internal predisposition which must exist, since not everyone who smokes develops lung cancer. Obviously, too, there are other exogenous factors that may produce cancer of the lung. Among these are a number of occupational exposures. There is also evidence that general air pollution and/or motor exhaust fumes may be a contributing factor (Stocks and Campbell, 1955; C. Mills, personal communication). However, with the possible exception of a few isolated cities, such as Liverpool, air pollution is at best only a secondary factor. This belief is based on the fact that among non-smokers lung cancer occurs but rarely, that the incidence of lung cancer among women, who are also exposed to city air, is low, and that the age distribution of epidermoid lung cancer with its peak in the fifth to sixth decade and its subsequent decline is more compatible with an exogenous factor to which only a certain population group was exposed some 30 to 40 years ago rather than with air pollution, which would expose an entire population group at the same time (Levin, 1953).

While most students of the problem of the aetiology of lung cancer admit to an association between smoking and lung cancer, some question whether this association also represents causation. Until proved otherwise, an association means at least a contribution toward if not a causation of a disease. For any given patient it matters little whether a factor has contributed to or caused a disease. In either case the elimination of this factor will lead to reduction of the disease. In this sense, smoking, and especially cigarette smoking, is to be regarded as an important factor in the development of lung cancer. In fact, among the exogenous factors that influence the development of this disease it represents the most important one. Present incidence data indicate that some 80% of all lung-cancer cases occurring in males to-day would not have occurred were it not for tobacco smoking, and that about 10% of males over the age of 25 who smoke in excess of 20 cigarettes daily will develop lung cancer by the age of 75.

In view of these data, which gain significance because lung cancer represents the most common cause of cancer death among males in many countries, it becomes paramount to ask what we can do about solving this problem. Ideally this problem could be largely overcome by abolishing the use of tobacco. It is evident, however, that because of economic factors and because of firmly entrenched habits such advice is not likely to be heeded, regardless of how strong the evidence. For this reason we became interested in experiments that might lead to a reduction of carcinogens in tobacco and its products.

Animal Evidence

Experimental work is not carried out to prove that smoking causes cancer in man. Such proof can come only from human statistical and epidemiological studies. The purpose of an animal experiment is to define the mechanism by which a given agent produces cancer and to determine the specific substances responsible for this activity. In a series of experiments with different strains of mice we have demonstrated that condensed cigarette tar obtained in a manner simulating human smoking habits will produce skin cancers in a significant number of animals, varying from 10 to 44%, depending upon the strain of mice used (Wynder, Graham, and Croninger, 1953, 1955; Wynder, Lupberger, and Grener, 1956). Preliminary data show that some 20% of rabbits whose ears have been painted with tobacco tar for more than five years also develop cancer (Graham, Croninger, and Wynder, unpublished data). Thus carcinogenic activity of cigarette tar has been demonstrated in two species of animal and in several strains of mice. By itself, this observation might be only of academic significance, but taken together with the human evidence already at hand it gains practical significance.

Among the well-established principles of carcinogenesis is the relationship of dose to the latent period and number of tumours that may be obtained. The fulfilment of this principle is one of the reasons smoking is regarded as a cause of lung cancer in man. The risk of developing lung cancer rises in proportion to the amount of tobacco smoked. It has been of interest to determine whether with tobacco this principle could also be established for the experimental animal. Preliminary work leaves no doubt that this is the case (Wynder, Kopf, and Ziegler, unpublished data). When tar was applied to the back of Swiss mice twice a week, instead of three times weekly as is standardly followed in our laboratory, only 10% of 40 mice developed papillomas and 3% cancers at the end of 17 months. Of the animals painted three times a week for the same interval, 58% had developed papillomas and 26% cancers. The first papilloma in the group painted twice a week occurred two months later than in the group of animals painted three times a week. 40 mice painted once a week for 17 months developed only one papilloma.

A comparable reduction in tumour formation and lengthening of latent periods is also noted when one decreases the amount of tar applied. A 33% solution produced about 20% fewer cancers and increased the latent period by three months over that obtained with a 50% solution.

In still another way we can demonstrate the dose-response principle by stopping the painting after a given period of months. Painting animals three times a week for only three months and then stopping produced no tumours after 16 months of observation; painting 50 mice for six months produced two papillomas which subsequently regressed; nine months' painting produced a significant number of papillomas and cancers, but this was exceeded if animals were painted for one year.

Thus, animal experimentation has demonstrated a definite relationship between the amount and duration of tar applied to an animal and the total number of tumours and the duration of the latent period observed. The importance of this demonstration serves not so much as an example for those investigators who report negative results after painting animals with insufficient amounts of tar or over a too short time period, but serves chiefly to re-emphasize the existence of a threshold value for tobacco tar below which tumours will not or but infrequently occur after a long latent period. Here again human and animal data confirm one another. The realization of this principle has practical aspects that are discussed below.

Tobacco Carcinogens

Having established the carcinogenic activity of cigarette tar, one needs to determine the nature of the carcinogens responsible for this activity. The benzpyrene content of cigarette tar is not more than 2 p.p.m., which, according to our experiments, is not sufficient to produce the type of activity noted in our animals painted with tobacco tar (Wright and Wynder, 1955, 1956). The arsenic content of our tar sample is about 35 p.p.m. Again this is not sufficient to induce the number of skin cancers produced. Cooper and Lindsey (1955) have found traces of 1:2-benzpyrene, and G. L. Wright (unpublished data) observed spectrographic evidence of traces of 2 methyl,3:4-benzphenanthrene. At present there is no evidence of a known carcinogen in tobacco tar in quantities large enough to account for the observed animal activity. A summation effect of the substances just mentioned or perhaps a co-carcinogenic effect of other substances remains to be ruled out. It seems more likely, however, that there are carcinogenic substances in tobacco tar which are as yet unestablished.

Most, though not all, of the carcinogenic activity of the cigarette tar lies in the neutral fraction (Wynder and Wright, 1956). Within the neutral fraction the carcinogenic components are those that are eluted by hexane and particularly by carbon tetrachloride or solvents of similar polarity. Both of these fractions proved highly active for the rabbit, and the latter particularly potent for the mouse (Wynder and Wright, 1956). The benzpyrene content of both fractions is low. In the concentration as applied to the animals it was not more than 2 p.p.m. In these fractions there is spectrographic evidence of other higher aromatic hydrocarbons which are present in 50 times the concentration of benzpyrene. We are currently engaged in various separation schemes trying to isolate these substances.

Formation of the Tobacco Carcinogens

Present evidence suggests that the majority, though not all, of the carcinogens in tobacco are formed during pyrolysis. Human statistics comparing the risk of cancer among tobacco chewers with that of tobacco smokers, and our own experimental work comparing the activity of cigarette tar obtained by extracting cigarettes with methanol and hexane with that of condensed cigarette smoke, indicate far greater activity for the latter in each case (Wynder and Wright, 1956). Thus there is good reason to believe that the majority of the carcinogens are formed during combustion. In fact, ever since the classical work of Kennaway (1925) and his associates showing that under pyrolytic conditions by which they are formed the pyrolysis of isoprene and that of acetylene in turn form potent carcinogens, it has been apparent that higher aromatic hydrocarbons can be formed by the pyrolysis of saturated or terpinoid aliphatic hydrocarbons. Most recently this was again demonstrated by Lam (1956a, 1956b), who obtained such substances upon pyrolysis of dicetyl as well as of aliphatic tobacco hydrocarbons. In this respect one recalls Kennaway's recent remark (personal communication) that in view of the high temperatures associated with smoking he was surprised that tobacco smoke was not more carcinogenic than present evidence indicates.

It is our working hypothesis that a major proportion of the tobacco-tar carcinogens are formed through pyrolysis of substances naturally occurring in tobacco, which thus serve as precursors to tobacco-tar carcinogens. The practical aspects of research in this field must be directed towards reducing the exposure to and the formation of carcinogens in tobacco tar.

Practical Aspects

Practical aspects of solving the tobacco-cancer problem centre in the following suggestions and research programmes.

1. *Moderation of Smoking Habits.*—All a physician can do is to present the facts to the public. In general, of course, the public is unable to evaluate the present facts fully, in part because of the confusion that special interests in some countries have added to this situation. In the final instance it must become the function of the public health services of different countries to evaluate the data at hand, and, if convinced by the evidence that tobacco plays a part in the development of lung cancer, decide whether lives are more

important than economic considerations. In view of the apparent difficulty that may be foreseen in arriving at a decision on this issue, research must be carried forward that may give a practical solution to the problem at hand.

2. *Effective Filtration.*—During recent years filtered cigarettes have become increasingly popular, initially because of "supposed health protection" and to-day because of a combination of factors, which include large advertising campaigns, the perhaps more pleasant feeling of a filtered tip, and a somewhat "milder smoke." According to present knowledge, filtration to remove specific components from the particulate phase of the smoke seems not possible. Thus we must concentrate on mechanical filtration permitting a minimum of tobacco smoke to pass, a minimum compatible with a satisfactory pressure drop and tobacco taste. In the United States some tobacco companies have taken advantage of the public's desire for filtered cigarettes and its equal wish for good tobacco flavour by marketing increasingly ineffective filters. Since both human and animal evidence indicates that the risk of developing cancer is directly related to the amount of tar exposure, it stands to reason that a given filter which will permit x milligrams of tar to pass is more effective than one which will permit the passing of $3x$ milligrams of tar. Sooner or later, regulations must be passed that establish criteria for the amount of tar which may pass through a given filter and that will make it a requirement for the manufacturer to state the effectiveness of a given filter. Present work indicates that it is entirely possible to develop a filtered cigarette with a good pressure drop and satisfactory tobacco taste which will remove about 40% of nicotine and tar from a given cigarette. Uniform acceptance of a filter in this range will be a partial answer to the present problem, provided, of course, that the smoker does not decide to smoke twice as many cigarettes, and provided, too, that the tobacco selection, cut, or packing is not altered in such a way as to yield increasingly more tar.

3. *Removal of Precursors.* If the hydrocarbons naturally occurring in tobacco represent one of the major precursors of tobacco-tar carcinogens, a reduction of such substances may have a direct effect in reducing the carcinogens. Most of the aliphatic hydrocarbons are in the waxes that cover the tobacco leaf. Terpenes are also present. It may be practicable to remove all or part of these substances from tobacco by washing it with eluents such as hexane. Experiments testing this hypothesis are now in progress.

4. *Modification of Pyrolysis.*—Since pyrolysis plays an important part in the formation of carcinogens, modifications of pyrolysis may affect the formation of carcinogens. This problem can be studied from the point of view of all those factors that affect the process of pyrolysis of tobacco. This includes the amount of oxygen supply, the temperature levels reached and maintained, the catalysis available, the cut of the tobacco leaf as such, the length to which a cigarette is smoked, and even the cigarette paper used. Experiments are now in progress for studying the interrelation of these factors so as to determine how a modification of the factors might lead to a reduction of the carcinogens formed during pyrolysis.

In this respect recent work of Lam (1956a, 1956b) is of particular interest. Pyrolysing aliphatic tobacco hydrocarbons, he found smaller amounts of aromatic compounds formed at 700° C. than at 800° C. At the latter temperature Lam found 3,4-benzpyrene to account for 1.3% of the total aromatic compounds and at 700° C. for 0.5%. The respective figures in parts per million were 340 and 30. At 600° C. Lam was unable to find evidence of aromatic substances, but studies by Wright indicate that some polynuclear aromatics are found even at lower temperatures (G. Wright, unpublished data).

Conclusion

The practical aspects outlined above may not individually lead to a tobacco tar that will have less tumorigenic activity, but a combination of these factors may be effective.

This discussion has dealt only with the problem of carcinogens and not with the equally important problems of nicotine and its apparent effect on the cardiovascular system. Jointly with work carried out toward reducing the carcinogens in tobacco tar to a subthreshold level, work should also be carried out on nicotine effects to determine whether it can also be brought to a subthreshold level so far as its effects on man are concerned.

A final point concerns a comparison of human and animal data referred to in the beginning of this discussion. It was there stated that the proof that smoking is the cause of cancer in man rests entirely upon human statistical and epidemiological data. Animal data chiefly serve to indicate the nature of the carcinogens in tobacco tar. Obviously they can only indicate the nature of a carcinogen to a specific animal strain, species, and tissue. This truism applies not only to this specific instance but to all phases of cancer research. In cancer chemotherapy, as in carcinogenesis, many similarities and also many differences are known to exist between human and animal data. On having identified the specific carcinogens in tobacco tar as they apply to the experimental animal, one can only assume that these carcinogens are also responsible for the human cancer problem. If an agent has been found to be carcinogenic to a variety of animals, and human epidemiological data are not inconsistent with this finding, then the burden of proof lies upon those who claim that these substances are not carcinogenic to man. For that reason we should try to establish measures, if at all practicable, that can reduce established carcinogens from tobacco tar and apply these to the manufacturing of smoking products and the smoking habits of the population. This problem, as any other problem in life, cannot be solved by ignoring its existence or depreciating its importance. It can only be solved by facing it directly. In view of the work already completed and the investigations in progress now, a satisfactory solution should be attainable. The lives of people everywhere who will in years to come die from cancer of the lung and cancer of the upper respiratory tract demand that we give this problem our fullest attention.

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Reporting to the Waikato Hospital Board, Hamilton, North Island, on the shortage of house-surgeons in New Zealand, the medical superintendent of the Waikato Hospital, Mr. R. S. A. GRAHAM, said that early marriage or projected marriage was one of the three predominant causes of the early loss of senior house-surgeons from the hospital service to better-paid positions in private practice. Mr. Graham said he understood that the marriage rate among medical students was increasing rather than diminishing. In 1956 nearly 30% of final-year students at the University of Otago would have married by the end of the year, as against 10 to 12% in previous years. Of the two other main causes for the loss of senior house-surgeons, one was the desire to get overseas—or at least to take a locum to accumulate funds for overseas work, he said.

THE MILD ENDOGENOUS DEPRESSION*

BY

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In a recent paper on endogenous depression (Watts, 1956) it was suggested that not more than one-quarter of the cases occurring reached the psychiatrist, and that the disease was essentially one of general practice. It is probably one of the most common misdiagnoses, frequently being labelled either an anxiety state or an organic illness. The typical mental-hospital type of endogenous depression is easy to identify. To wait for this severe state of affairs to be reached in order to clinch the diagnosis is like waiting for cavity formation before deciding that a case is one of tuberculosis. There is one big difference between these two diseases. Tuberculosis is a chronic progressive condition which will in time compel recognition, whereas endogenous depression is a self-limiting disease which in 85% of cases remits after a few months or years, and once the patient has recovered the problem of diagnosis is forgotten. Only about one case in every six is a classical deep depression. The other five are milder types, and more difficult to diagnose. Twenty years ago, at the very end of a list of possible aetiologies, one found "hysteria." This clause should be amended to "anxiety states, *endogenous depression*, and other psychiatric disorders."

The first step in making the diagnosis is to realize the possibility. The mild depression has to be sought for. The presenting symptoms in 100 cases are shown in Table I.

TABLE I.—*Presenting Symptoms in 100 Cases*

Depression	9	Muscular pains	2
Cough	8	Injury	2
Run down	7	Strange behaviour	2
Insomnia	7	Palpitations	1
Headache	6	Tinnitus	1
Vague complaints	4	Globus hystericus	1
Dyspepsia	4	Urticaria	1
Nervousness	4	Tremor	1
Tight feeling in chest	4	Tonsillitis	1
Giddiness	4	Pseudocyesis	1
Pain in chest	4	Bad smell in nose	1
,, ,, back	3	Piles	1
Belching of wind	3	Diarrhoea	1
Pregnancy	3	Constipation	1
Attempted suicide	3	Haematemesis	1
Vaginal bleeding	3	Collapse	1
Dysuria	2	Dysphagia	1
Fainting	2		

If all the cases with symptoms that could possibly be called neuro-psychiatric are collected together, the total number of the cases will amount to 60% of the whole (Table II). In other words, two-fifths of the cases present as a possible organic disease.

TABLE II

Nervous and psychiatric symptoms	60
Respiratory system	12
Gastro-intestinal system	9
Urogenital system	8
Muscular ,,	5
Ear, nose, and throat system	3
Injury	2
Skin diseases	1
	100

To approach the problem of diagnosis another way, it is suggested that mild endogenous depressions appear in four ways. (1) Some of the patients exhibit overt evidence of a depressive disorder, and the problem is to decide whether the case is endogenous or reactive. (2) Some present as cases of psychiatric disorder, but the depression is heavily disguised. (3) Some present as a "depressive equivalent"; that is to say, the case simulates an organic illness, and the latter has to be excluded before the diagnosis can be made. (4) The depression may be grafted on to genuine organic illness. To illustrate these points, typical cases in the various categories are described.

*This article and its predecessor (Watts, 1956) were the substance of the Sir Charles Hastings Prize essay for 1955.

1. Overt Depression

This kind of case is often presented in general practice as the respectable good patient who suddenly goes "neurotic" and becomes really troublesome. For weeks or months he is a constant attender at the surgery with vague complaints which have no adequate physical basis. He tends to exchange one set of symptoms for another and his outlook is irrational. Then just as suddenly as he started his trips to the surgery, they cease, and once again he becomes the perfect patient, requiring no attention.

A man of 50 presented himself in an apologetic way. He wasn't really ill; he just felt queer. He had never been like it before and just could not understand himself. He could not read as he used to, found it very difficult to make up his mind about things, was restless, and could not sleep, having difficulty in dropping off. There was no obvious reason for any anxiety or depression. Testosterone was ineffective, but he found great help from quinalbarbitone on retiring and dexamphetamine in the mornings. He was unable to work for four weeks, and when better admitted he had had ideas of poverty he had never spoken about. When seen six months later he had quite recovered.

A woman in her forties was very prone to this condition. She usually came to the surgery with some fairly trivial complaint, but if given a sympathetic ear she was prepared to pour out her troubles. "Doctor, I don't know what is the matter with me. I have a good husband, a nice home, and three lovely children. I have everything that a woman can want and yet I'm utterly miserable."

A married woman aged 44 came to see me because of dizzy bouts. She said she could not understand herself, as the least thing upset her. Some days she felt on top of the world, and the next useless. She kept waking up in the early hours of the morning and what sleep she had was broken with bad dreams. She could not concentrate, and found her memory was going. She could not settle to do jobs which at one time gave her great satisfaction. There was no wish to be dead, but she was given to weeping bouts.

2. Depression Disguised as an Anxiety State

The following case illustrates the difficulty in making a diagnosis. While three doctors were agreed on the psychogenic nature of the problem it was not until psychotherapy was started that the case was shown to be one of endogenous depression.

A man of 31 was passed on to me as a psychiatric case by one of my partners. He had already been seen at the hospital out-patient department, where the diagnosis was considered to be "psychogenic." His story was that in June, 1955, while working a crane, a giddy feeling came over him and he had palpitations. He felt very frightened and thought he might drop dead. He had been sleeping badly for some time before this attack. When seen by me in February, 1956, he was complaining of headaches and vertigo, and my first diagnosis was one of anxiety state. Financial worry seemed to offer some explanation for his troubles, but he had no insight into his condition and he was unresponsive to psychotherapy. Attention was then turned to probe for depressive feelings. Inquiry showed that he was in very low spirits and often wished he was dead. He felt it was all his own fault that he had allowed himself to slip, and he had distinct ideas of guilt. Powers of concentration had gone, he could no longer read books,

and noise upset him. He found the children a problem and the wireless unbearable. The world, he said, looked different, a less pleasant place than it had been. He was referred to a psychiatrist, who agreed with the diagnosis, and he entered a mental hospital as a voluntary patient.

3. The Depressive Equivalent

The type of case in which the depression simulates an organic illness was called by Kraines (1943) a depressive equivalent. A selection of these cases is given to illustrate how deceptive the disease can be, and not because equivalents are more numerous than other types of depression.

Simulating Gastric Carcinoma.—A man aged 52 sent for me in August, 1946, because he had had a haematemesis. I did not see the blood, but he was obviously very ill. He was pale but not exsanguinated. He had a marked anorexia, was very thin, but had no pain whatsoever. I could find no physical signs in his abdomen, but I suspected carcinoma of the stomach. As soon as he was fit enough he was sent for *x*-ray examination, with negative results. In November he was a living skeleton. He could not sleep, and felt awful in the mornings. He was morose and could not bring himself to speak to his family. He admitted he was very depressed, and when I asked him if he wished he was dead he replied, "I have indeed, but I would never have told you had you not asked me." He stated he still could eat nothing before dinner, but felt better by evening. At bedtime he felt much better, but could not get off to sleep. This morning depression and evening vigour is fairly common in melancholics. A week later he was very depressed and admitted that but for his family responsibilities he would get out of it. I persuaded him to see a psychiatrist, who reported as follows: "This patient has, as you say, a typical involutional depression of something like 12 months' duration. He should have E.C.T., but refused to go to a mental hospital. His haemorrhage is indeed difficult to account for, though it did follow vomiting. Did the strain of retching rupture a vessel?" The patient was very satisfied with this second opinion, although he poured scorn on the idea of a mental hospital. By July, 1947, he had recovered enough to go back to work.

This man presented a typical picture of gastric neoplasia: but he proved to be a case of depression.

Simulating Asthma.—An old man of 84 sent for me because he was having attacks of nocturnal dyspnoea. I found him setting potatoes in his garden, so he was by no means an invalid. He actually lived alone and cared for himself. His story was that at 2 a.m. he awakened short of breath. He had to get out of bed and open the window, and there was no more sleep. I thought he probably had cardiac asthma, but there was no evidence of either heart or kidney disease. Linctus and cough medicines were ineffective in helping his dyspnoea. He pressed me to let him know the worst, and all his family felt it was the end. The early waking and his deep concern over himself made me suspect depression. I gave him a barbiturate hypnotic each night, and once his sleep had returned to normal he greatly improved. He never had a return of his symptoms and he lived to the ripe old age of 92.

I have called this incident a depression. It was certainly no organic or progressive disease. There was no history of asthma, and I never found any evidence of bronchospasm. He had a very fine health record. My view is that this was a very mild depression which fortunately came and went fairly quickly, lasting in all about two months.

Simulating Rectal Growth.—A man aged 45 came to see me in February, 1947, complaining of diarrhoea. His stools were running from him in the surgery, so that I had to send him home and go there to examine him. There was a history of alternating diarrhoea and constipation with marked loss of weight. Nothing was found on physical examination either per rectum or per abdomen. He was referred to hospital, where investigations were again negative, but it was suggested he be kept under observation. A month later, when his diarrhoea had ceased, he complained of difficulty in falling off to sleep, bad dreams, and awaking unrefreshed. He said he felt awful in the mornings and had done so for at least three months. Everything was too much trouble; but he denied being depressed. He was irritable at home and his sexual desires had gone. I returned him to hospital with the suggestion that he was depressed. This view was confirmed by the physician. By April he was worse, neither eating nor sleeping. In May his wife came to see me. She was very worried about him and was sure he was suicidal. She agreed to his going to a mental hospital, but we could not persuade him to go. Fortunately he began to improve, and by July was back at work, having been "on the club" for five months.

Simulating Intestinal Obstruction.—A woman aged 57 came to see me in April, 1947, complaining of abdominal pain. Physical examination revealed that her abdomen was distended, and she presented a picture of subacute obstruction. I sent her to see a surgeon privately, and he admitted her to hospital at once and performed a laparotomy, to find nothing abnormal. I saw her again in May, when she came out of hospital. All her abdominal symptoms had gone and she complained of insomnia, early waking in character. She was depressed and lacrimose, but admitted no death wish. Her memory was bad and she could not stand noise. She told me she had been very depressed 27 years previously, after the death of a child. She had visited the grave twice daily and once filled a tub in which to drown herself. A week after this interview she was somewhat better, having good days and bad days. The depression gradually lifted, and in October, 1947, she said she would not come again as she was quite well, and her recovery appears to have been maintained for the past nine years.

This case is of interest because the depression did not become obvious until after the laparotomy; but it must have given rise to the obstructive signs and symptoms. Autonomic upsets are not infrequent in depressive illness, as shown by sweating, tremors, fainting, and even ague.

4. Depressive Grafts

In my opinion few chronic sick are more cheerful in adversity than the victims of severe forms of rheumatism.

A man of 27 had been confined to his bed for seven years with a poker back and ankylosing arthritis of both his hips. He was usually cheerful and contented in spite of his crippling and sometimes painful complaint. He seemed to have accepted the bad prognosis and adjusted himself to the limited little world in which he was compelled to live. He revelled in the praise he got from his family and friends for his uncomplaining attitude. His bedside became a social centre. But periodically a cloud descended and he lost his tranquil frame of mind. He grew restless and demanded further investigation of his condition or a new treatment. He became complaining, morose, and difficult to live with. He felt his life in his deplorable state was not worth living, and suicidal ideas were not far away. He was broody and had difficulty in sleeping. He refused to eat, was depressed, and at times lacrimose. He was full of symptoms, and each new pain had an ominous significance. His whole attitude to his suffering became illogical and quite the reverse of his usual fortitude.

I saw this man in only one of his attacks, but my partner, who had been looking after him ever since his illness began, said he had had three or four similar attacks. These usually last for about a month, and then the cloud lifts and he becomes his old self again, seemingly adjusted to his physical limitations.

A man of 64 had very severe chronic bronchitis and marked emphysema. Only on his best days could he walk very slowly along the village street. Most of his life was spent in his chair in the kitchen. He was a man of character. Starting life as a collier, he had continued at that work until his chest had stopped him five years previously. But besides his mining he had saved money and bought property. He was a fine gardener and owned a sizable poultry farm. He was always an interesting man to visit, although he was

so short of breath that even speech was difficult at times. He was philosophical about his illness, and usually said little about it. He preferred to talk about gardening or hens. When I called to see him in March, 1946, he had left his place in the kitchen and was sitting in a chair in his downstairs bedroom. He looked thoroughly miserable and depressed. He felt his end had come, and, although he had no ideas of suicide, he wished he could die. Life was a burden to him and he could see no future. His sleep was bad, as he was given to early waking. He made a good response to phenobarbitone and amphetamine, and in about three weeks the depression had passed. He came back to the kitchen and was his old cheerful self until he died in an emphysematous crisis some eight months later.

A married woman of exceptional personality and ability lived alone and did all her own housework at the age of 82. In August, 1947, I was called out to see her in the night as she had an attack of renal colic. I gave her morphine, and the next day she was much better. I noticed she had auricular fibrillation and a fast pulse, so I kept her in bed for a few days. She developed oedema and became seriously ill. Her son took her to his home, and there she became very depressed. She did not weep, but felt she was finished, and actually asked me to put her away. She could neither eat nor sleep, and it was difficult to control her oedema. Slowly she improved, but she remained profoundly depressed. In ordinary times she knitted, did the *Daily Telegraph* crossword puzzle every day, and enjoyed jigsaw puzzles, but she could settle to none of these things. She even lost interest in her own home, and she had always been of a very independent nature. Just after Christmas she was persuaded to go to her other son in a distant town for a few weeks. She hated every minute of the change and must have been a very difficult guest. The doctor who looked after her wrote and told me that, while her fibrillation was under control, she was very much a "cracked pot." She came back in February, and an improvement soon became obvious. She had started knitting and listening to the wireless. By Easter she was well enough to go home and take up her own life again, including her crossword puzzles. She kept remarkably well for two years and then had a stroke and died in two days.

Symptomatology

The severe depression is expressed in the triad of symptoms—namely, difficulty in thinking, depression, and psychomotor retardation. In the profound case these are often obvious at a glance, but with mild cases they have to be sought for.

Difficulty in Thinking

This is expressed in the patient with mild depression in two different ways. First, as a feeling of tiredness and exhaustion. The "reading test" is quite a useful measure of its magnitude. The reader of books finds he cannot concentrate enough to enjoy a book, but he can read the newspaper. Patients with more severe depression cannot even take an interest in the newspaper. One collier who could raise enough interest at midday to drink his beer and make a bet, could not by nightfall raise the interest to look at the results in the evening paper.

The second way in which this basic symptom is expressed is an illogical approach to the problem. As Robert Burton (1628) put it 300 years ago, "Reason as well as imagination is at fault." One man blamed a quarrel with the foreman for his troubles. Argument could not convince him that this explanation was phony, but a week later he decided that the real cause of his trouble was he needed glasses. The quarrel was forgotten. Often there is an element of self-blame in these phony explanations. An engineer blamed worry over a haulage cable which he had not tested to his satisfaction, but there was no real evidence that his fear about the cable was valid. He could never forgive himself if it ever broke. The mind of the anxious patient is rational and he can follow with interest a logical argument. That of the depressed patient is irrational. His thoughts and ideas are repetitive. He will say the same thing over again, and ask the same questions; he makes no progress with superficial psychotherapy.

Depression

The victim of a mild depression does not look depressed, but he will readily admit he feels in low spirits. The colour has gone out of life, and the future, if not black, is at least grey. The sense of humour goes. He "is not himself" in a very real way, and he feels isolated and misunderstood. The tolerance of noise drops in depression, and, as wireless is an almost universal noisemaker, the patient's reaction to it is significant. The patient who used to work to a background of wireless programmes now switches the set off. The row made by his children upsets him in a way it never used to.

1. *Suicidal Ideas.*—These ideas are an expression of this symptom. In a depressive with suicidal feelings the depression is not mild, but even in the mild cases the seeds of the suicidal urge may be evident. This is expressed first as a fear of dying. The patient feels he has some mortal illness such as cancer or tuberculosis, or he is going to have a stroke. This same feeling may be expressed not as a fear of any disease, but as a feeling of apprehension as if something terrible is going to happen. "Every time a car stops outside, I think they are bringing my husband back from the mine," or, "Every time the 'phone rings I feel it is bad news." As the depression deepens, the patient expresses not so much a fear of death as a wish to be dead. This is still not the same as a true suicidal urge which occurs in the worst types of depression. If a true suicidal urge is suspected the patient should be sent to a mental hospital for treatment. Occasionally even the apparently mild depressive may be more suicidal than one thinks.

2. *Phobias and Obsessions.*—Just as the suicidal urge has forerunners in such symptoms as a fear of impending disaster, a fear of death, or a wish to be dead, so the frank delusions of the profound depressive may start as simple phobias or obsessions. A fear of venereal disease is a not uncommon symptom of depression.

One of the village fathers, a venerable man of 65, came to ask me for a tonic, as he was run down. His symptoms were all very vague and indefinite. During this first consultation he confided in me that as a young man he had had gonorrhoea. He concluded by saying, "I have never told anyone about that before. I have been wondering lately what my children would say if they knew, or what my friends and their wives would think of me." This was in fact the beginning of a depression which lasted for about three months. Soon after recovery he had a coronary thrombosis which ultimately killed him, but during the physical illness he was never morbid or depressed, and no mention was ever made of venereal disease.

The phobia which persists may become an obsession, so that the patient can think of nothing else. The obsession may be about disease, as in a case of cancerophobia, or it may be about some misdeed, as in the case of a mother who felt she had killed her child. Phobias are common among mild depressives, but if the patient becomes obsessed the depression is getting deeper, and it is as well to get the advice of a psychiatrist, as such cases often need E.C.T.

3. *Insomnia.*—This in one form or another is an essential feature of endogenous depression. While the most common form of sleeplessness is that the patient awakens in the early hours, this is by no means always true. When a series of 100 cases was analysed early-waking insomnia was evident in only 44% of the patients. A more general form of insomnia is not uncommon. The patient finds difficulty in getting off to sleep, and, once asleep, sleeps only fitfully, to wake in the morning more exhausted than when he went to bed. A further 22% had difficulty in dropping off to sleep, but then slept reasonably well. Most patients with endogenous depression awaken with a heavy head and they feel useless for several hours. Bad dreams occurred in 21% of the cases, and in two the dreams were so awful as to account for the insomnia. "I dream of terrible and shameful things," "I never had such dreams in my life," or, "I am always

dreaming of death and dead people," are examples of how such dreams are described. Two patients could not sleep because of their bad coughs, and another woman, who was suffering from pseudocyesis, was unable to sleep because of the "movements inside her."

Psychomotor Retardation

In the case of mild depression psychomotor retardation may be expressed by minor habit changes. This symptom is a most subtle measure of depression. It happens for a variety of reasons. Sometimes the habit change is because there is a falling off of powers of concentration and application. The pianist never opens her piano, and the keen gardener lets his weeds grow unheeded. The tidy person tends to neglect personal hygiene and look unkempt, but with mild depression this is not likely to be marked.

The social habits of the patient are very prone to alter. The normally affable person tends to stay at home because people are apt to ask questions about his health or pass remarks about him which only make him more depressed. The music-hall and the cinema no longer amuse him, and his inability to laugh with others only underlines his troubles. On the other hand, some timid normal unsociable types begin to seek company. They are so fearful of their own thoughts that they prefer and feel safer with other people.

Bizarre forms occasionally arise. One depressed woman who was obsessed with the idea of a growth in her back used to wear holes in all her clothing by rubbing the affected part against suitable articles of furniture. The habit was noticed long before the depression was diagnosed or the reason for the back-rubbing was elucidated. Another reason for habit changes is that the patient is always on the look-out for an explanation for his symptoms, and, like the drowning man, he will clutch at a straw. If he happens to blame the habit of a lifetime for his symptoms, it is dropped. One man of 56 ceased to take his ritual purge on Sundays in case that was upsetting him. The regular drinker may stop drinking, or he may drink a lot more in order to obliterate his unpleasant feelings. One thoroughly reliable and normally abstemious patient developed delirium tremens, as he took to relying on alcohol to get him off to sleep.

The Feel of the Case

The classical melancholic oozes depression, so that the observer feels depressed himself, in much the same way as the merry "drunk" readily transmits his cheerful state of mind to responsive company. There is no aura of depression about mild cases, and yet they have a definite quality of their own. Their attitude of mind is one of *injured bewilderment*. "Why am I like this"; "I have never been like this before in my life"; "I don't know what has come over me"—all these are the patient's ways of describing his feelings. He is pained and worried by his change of outlook. He seems to want reassurance, but does not appear to accept it at the time, as with monotonous regularity he goes over his symptoms again and again. He is in fact assisted by reassurance.

A man of 56 appeared to have a mild depression. After a full history and careful examination he was reassured, and the disease was explained to him. He was told that in a few weeks, or perhaps months, his troubles would all disappear. He was seen weekly for some time and then six months later he came down to the surgery. He had quite recovered, but was still able to give a vivid description of his depressive feelings. He had felt hopeless, and the doctor's reassurance, although viewed with considerable doubt and misgiving when it was given, had helped. In fact, now that he was well he was prepared to admit that all forecasts of recovery, disbelieved at the time, had been fulfilled, and he was grateful for such reassurance.

The depressed mind, besides being somewhat rigid, appears to work in an illogical manner. The melancholic is unimpressed by a reasoned explanation of his feelings. He may, in fact, feel worse if told too much. On the other hand, a perfectly intelligent depressive will ascribe his state to quite absurd possibilities. An innocent pimple has fearful significance, some distant peccadillo is now bringing retribution, and so on. In spite of this rather difficult frame of mind, the patient is at heart grateful for all attention and sympathy. One woman who has in eight years had five severe but short-lived depressions comes along or sends to the doctor if she feels an attack coming on. She must know by now that no medicine the doctor can give her will help. She evidently feels that his knowledge of her suffering and his understanding in some way help to make the burden lighter. Even if the recurrent case knows it may lead him back to a mental hospital, he usually comes back to his doctor when he feels the clouds are descending on him.

Treatment of the Mild Depression

The factors which should make the general practitioner pass a depressive case on to the psychiatrist are twofold. First, if he can detect a suicidal urge, or symptoms such as agitation or delusions are emerging, then the depression is no longer mild, and E.C.T. is probably indicated. Secondly, if the illness lasts more than three months, further advice should be sought, to confirm the diagnosis and to consider physical treatment. If these two points are borne in mind the treatment of the mild types of depression is safe and simple and within the scope of general practice.

The most important factor in treatment is to establish a good rapport. The patient is so often spurned and misunderstood, especially by well-meaning relatives, that it is a great relief for him to find a sympathetic ear. His feelings of guilt, if not overt, are latent, and he tends to feel a very inferior creature and thoroughly ashamed of his symptoms. The doctor who can assure him he is suffering from a common and well-understood disease makes him feel less lonely. If added to this the practitioner can show real interest and encourage him to come again once or twice each week, the patient is greatly relieved. He expects to feel he is a burden, a waster of the doctor's time. Have not his family told him that only he himself can help himself? He comes to the surgery expecting to be snubbed and feeling that the busy doctor will have no time for cases such as his. To find himself the centre of interest and understanding is a pleasant surprise in the grey world of depression.

Symptomatic Treatment

Insomnia is the most obvious symptom to treat. Barbiturates have a wide range of action. For the early-waking types butobarbitone, 3–6 gr. (0.2–0.4 g.), is indicated. Barbitone sodium, 7½–10 gr. (0.5–0.65 g.), is very useful, but it is so prolonged in its action that it tends to cause a hangover the following day. For those who have difficulty in dropping off to sleep the quick-acting barbiturates such as quinalbarbitone, 1½–4½ gr. (0.1–0.3 g.), should be given. The general insomnia or fitful sleep needs a mixture of both, such as quinalbarbitone, 1½ gr. (0.1 g.), and barbitone sodium, 7½ gr. (0.5 g.). Hypnotics should be looked on as a temporary measure, and if a habit is being formed the patient should be switched to the safer and less appetizing chloral hydrate, 30 gr. (2 g.). All hypnotics should ideally be given to a relative, who should administer them to the patient and see that he takes them, as the capsules and tablets are such an easy method for the would-be suicide. This is a council of perfection. It should be applied to the moderate and severe cases, but the patient with mild depression rarely brings a relative: the ritual of bringing the next of kin, and giving him a private session to discuss the patient's symptoms, and so on, only tend to increase the patient's apprehension about his troubles. In a series of 289 cases of endogenous depression four actually did use the barbiturates with suicidal intent. Only one patient was seriously ill and eventually died. On the other hand, it must be admitted that three of the four cases were viewed before this episode as cases of mild depression. In the early stages, when the patient is being seen twice weekly, the drugs need only be prescribed in small quantities to last three or four days.

As euphoriants and dispellers of the morning headache the amphetamine group of drugs are still the most useful. In a small proportion of cases, probably not more than one in ten, they work like a charm, and yet in others serve no useful purpose. They can be used in combination with barbiturates or aspirin in certain cases.

Malleson (1953) recommends the use of small doses of natural oestrone, ethisterone, and methyltestosterone in cases of premenstrual and menopausal depressions. If one hormone fails to work another is tried, or two are tried alternately. No adequate series has so far been established, but a few most gratifying results have been recorded, and further work on the subject is certainly indicated. There are many drugs on the market which claim to be useful in cases of depression, such as rauwolfia, chlorpromazine hydrochloride, pipradrol hydrochloride, benactyzine, and methyl phenidate hydrochloride, but again none have been given an adequate trial so far in the mild depressions of general practice.

Light work or work devoid of responsibility is to be encouraged, but the patient should not be physically exhausted by his labours, or weighed down by an overactive sense of duty. If work is a burden, it should be abandoned for a while. A change of scenery or company may help those with a mild depression, whereas it is definitely contraindicated in those with the severe type, who need to be kept under constant observation. Very few housewives, who form a big proportion of these cases, ever allow themselves to be put off work altogether.

Summary

The mild endogenous depression accounts for 60% of the cases which occur. The symptoms are usually so mild that the patient is not likely to get past his general practitioner into the hands of a psychiatrist. It is essentially a disease of general practice. The condition is frequently disguised, and is often misdiagnosed either as an anxiety state or as an organic illness. It can also occur as a graft on to established organic disease, and if such a patient is to receive adequate treatment the depression must have due recognition. These disguised forms of endogenous depression are illustrated by typical cases. The severe mental-hospital type of depression, with the classical triad of symptoms, is easy to diagnose. The case of mild depression has to be sought out. Difficulty in thinking, depression, and psychomotor retardation are all evident in an early and modified form. The evolution of such symptoms as suicidal ideas and delusions is observed in the various grades of depression. The mild depression has a distinct "feel" of its own. The patient presents a picture of "injured bewilderment."

Most of these mild cases can be treated at general-practice level. If a suicidal urge emerges, or the patient becomes agitated or deluded, a psychiatrist should be called in. It is as well to pass even a mild uncomplicated case on to a specialist if the depression shows no signs of improvement after three months' observation.

Symptomatic treatment is described, but the most potent weapon in the hands of the general practitioner is a good rapport with his patient. The sympathetic understanding of the doctor goes a long way to tide him over the dreary and painful weeks or months of depression. This is confirmed by the way in which patients with recurrent depression come back as soon as they feel the clouds descending.

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TRIAL OF RESERPINE IN TREATMENT OF SCHIZOPHRENIA

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This is a report on the immediate results of a clinical trial of the use of reserpine in the treatment of 119 cases of schizophrenia. The study covers a period of 18 months. An assessment of the cases was made on December 31, 1955. Only patients whose response to the drug was regarded as decisive by this date were included. The follow-up period ranges from a few weeks to ten months.

Inquiry into the efficacy of a new treatment in psychiatry is notoriously difficult. A controlled investigation satisfactory to statisticians is difficult to obtain, especially with a drug which has marked side-effects. Psychiatric diagnosis is inexact, and descriptive terms may have widely different meanings for different psychiatrists. The natural illness is often fluctuating and subject to remission. Enthusiasm for a new treatment, a new interest in the patient, and a favourable change in the environment can all react markedly on the patient, and influence results.

We have divided our cases into five groups, and the order in which we report on them reflects the history of our attitude to the drug. Thus the first group consists of chronic deteriorated patients who were long since regarded as past any hope of improvement. Results with this group encouraged us to treat a group of cases which had failed to respond satisfactorily to other better-tried methods of treatment. Later, we used the drug as the first line of treatment in cases considered unlikely to respond to these better-known methods. Finally, we report the results in two groups of acute cases in which the immediate prognosis with other methods had been thought likely to be good.

Regime of Treatment

The preparation of reserpine used throughout the trial is marketed under the trade name "serpasil."

When we began to use reserpine it was available only in tablet form, and in group I the dosage varied from 2 to 8 mg. daily by mouth. In the other groups we were guided by Kline's scale of dosage (Kline and Stanley, 1955; Barsa and Kline, 1955), and the following amounts were used: 3 mg. orally daily throughout; 5 mg. intramuscularly on the first evening; and 10 mg. intramuscularly nightly for three to seven weeks, reducing this to 5 mg. on alternate nights for two weeks, and finally 2.5 mg. on alternate nights before discontinuing the injections. If side-effects were troublesome the dosage was reduced earlier. In the most severely and chronically ill the intramuscular dosage was continued as a maintenance dose on every second or third night indefinitely. The giving of the injections at night minimizes absenteeism, due to side-effects, from occupational therapy classes and recreational and social events. Each case must be treated individually, and dosage modified according to the side-effects and the mental

state. Our present tendency is to decrease the dosage rather more slowly than at first, and to keep the patient on an oral maintenance dose for many months after symptoms have disappeared. All discharged patients are encouraged to attend the out-patient department regularly, and, if they live at a distance, to keep under the care of their local doctor and to report to us by letter should untoward symptoms arise. Sometimes a patient who has improved relapses when the drug is reduced, and a return to bigger doses is indicated. A number of patients who subsequently did well showed this tendency to relapse, from the fourth to the seventh week.

The drug was the focal point of the treatment of these patients. They were interviewed at least once weekly and their symptoms elicited. Usually the patient was told directly that he was mentally ill, and simple explanations were given of paranoid ideas, delusions, and hallucinations, with their mode of development. A full programme of occupational therapy, games, work parties in the open, and social events was provided. As soon as possible week-end parole was given.

Effects of the Drug

Often in the first few days, and almost always in the first week, there is evidence of a tranquillizing effect. The patients are more relaxed and sociable, and less preoccupied with their symptoms. Disturbed behaviour is lessened. In some a mild elation replaces confusion and preoccupation. By the end of the first week previously withdrawn or suspicious patients may be anxious to talk to the doctor about themselves and their symptoms. It is often easier to elicit symptoms. Patients who had previously been evasive or secretive about their condition may discuss their abnormal ideas quite freely. Sometimes from then onwards there is a progressive lessening of delusions and hallucinations, with a gain in insight. The patients may for the first time accept explanation and reassurance about the nature of their symptoms. The course varies widely, and, as with other treatments, the most recent symptoms disappear first, and the oldest ones last.

In many patients in the acute schizophrenic group, satisfactory improvement with good insight had been achieved by the 21st day, whereas similar improvement in patients of the chronic group might take 60 days, and occasionally much longer. Sometimes insight appears to be gained as a result of patient and persistent explanation; in others there may be a sudden change for the better, symptoms subside, and patients appear to gain insight overnight, almost as if some crisis had been passed. Several chronic patients said spontaneously that they had suddenly realized for the first time that they were mentally ill. One patient who had written scores of paranoid abusive letters, complaining about his alleged illegal detention, over years, wrote a letter in the third month of treatment saying that he had just realized that he was ill, that what had been done was in his best interests, and that he would like to change his status to that of a voluntary patient for the remainder of his treatment. The patient, a paranoid schizophrenic of seven years' duration, has achieved a very good remission, and has been symptom-free for more than nine months.

A highly intelligent woman with a three-years schizophrenic history was convinced of the reality of her "voice," and admitted it without reserve. After a month's treatment she flushed angrily when it was suggested that the voice was a hallucination, and complained in a letter to her husband that the doctors suggested she was "mental." She had then achieved sufficient insight to wish to avoid discussion of her symptom. A month later she could discuss her symptom objectively, admit that it was a product of her illness, expressed pleasure at the fact that it sometimes went away altogether, and inquire anxiously when it was likely to go away permanently.

A number of patients expressed fear that their "voices" would come back again when they stopped taking reserpine, and for this reason were loath to give up taking it.

Side-effects

In the first few days of treatment flushing, tremor, nasal stuffiness, and drowsiness occur. Sometimes there is dizziness and vomiting. In a few patients short periods of elation occur, but more often there are periods of tension and depression. These may coincide with the drowsiness which tends to come on from one to three hours after an intramuscular dose of the drug. After about seven to nine days restlessness appears, and within a few days, in varying degrees, the other side-effects—pains in the calves and forearms, pains in the lumbar region and neck, loss of natural mobility of the face and arms with increase of salivation—appear. These latter may progress to a well-developed picture of Parkinsonism.

Rigidity may be so marked that spoon-feeding is required within two weeks of the beginning of treatment. Often sleep is disturbed, and early waking may be a troublesome feature, even in patients who are not depressed. A curious combination of drowsiness and restlessness appears. Drowsiness makes the patient want to lie down on his bed, while the restlessness impels him to pace up and down the ward. Those of a phlegmatic temperament bear it grimly, while the more volatile clamour for attention and relief. Nasal stuffiness may result in nose-bleeding, and we have seen sinus infections in two cases. Breathlessness and, rarely, a sensation of smothering may occur. Rarely, too, a patient may feel weak to a degree he interprets as "paralysis." Frequency of micturition and nocturnal incontinence are fairly common. Delay in initiating micturition, subjective impairment of accommodation, and unexplained oedema of the face and ankles have been noted. We have had no difficulty from postural hypotension. If for any reason electroplexy is given, adequate relaxants and preliminary atropine are necessary. Otherwise excessive salivation and possibly nose-bleeding might cause difficulty in maintaining the airway. We have, however, had no worry from any of these.

One patient, after discharge from hospital on a daily dosage of 2 mg. orally, had an attack which may have been epileptic. This is our only experience of that complication, which is described by Barsa and Kline (1955). We have given reserpine to several epileptics, not included in this series, without any increase in their attacks.

One patient, not in this series, died while on reserpine. She was suffering from schizophrenia and thyrotoxicosis. The cause of death was a thyroid crisis, which may have been precipitated by a maxillary sinusitis due to reserpine.

Appetite is often increased, and some patients get up in the middle of the night to appease their hunger. When side-effects become marked, reduction in appetite and difficulty in swallowing may lead to loss of weight. In a few cases diarrhoea has occurred.

Provided explanation and encouragement are given, the side-effects present no great problem in the average case. An antazoline–naphazoline nitrate ("antistin–privine") nebulizer is useful when nasal symptoms are severe; too great restlessness is usually relieved by one of the short-acting barbiturates or chlorpromazine hydrochloride ("largactil"). Tincture of belladonna is a help in lessening the salivation of Parkinsonism. All the side-effects lessen if the dose is reduced. Indeed, these side-effects, although

troublesome, appear to have their value; they create a bond between the patient and his fellows; they provide a topic of conversation, and many seem almost relieved to complain of physical rather than mental symptoms. In some cases they seem to distract the patient from preoccupation with his fantasies and delusions. Patients turn to the doctor to ask for relief of their physical symptoms, and sometimes this is the beginning of a more satisfactory doctor–patient relationship.

Barsa and Kline (1955) have described a turbulent phase of variable duration following on a sedative phase in the first week. In this, they state, the patients become more deluded, hallucinated, and disturbed. We have not been able to confirm this observation. In our experience the turbulent phase, except in the rare patient, is one of physical disturbance rather than mental turbulence. It is due to the side-effects of the drug—in particular, restlessness—rather than any increase in the psychotic process. In a few patients who appeared to have a low tolerance for tension the physical restlessness led to impulsive behaviour, such as breaking cups or a window. These few patients described sensations of something about to snap in their heads.

Trouble from side-effects varies widely, but is generally more pronounced in patients with neurotic or psychopathic personality traits. Some leucotomized patients seemed to be very tolerant of the side-effects of the drug.

Depression

The most serious complication of the treatment is the development of severe depression. This has been noted by physicians treating hypertension with—by our standards—small doses of the drug (Freis, 1954; Doyle and Smirk, 1955; Smirk and McQueen, 1955). Transient depression may come on a few hours after an injection, but in most cases it passes off again. In our experience, persistent deep depression has developed as early as the 27th day and as late as five months after treatment has started. A number of those who developed depression after a long period on the drug did so when the dose had been substantially reduced—sometimes when an oral dosage only was being given.

The picture is usually characteristic of the endogenous type of depression—early wakening, a sense of hopelessness, often a sense of guilt, with suicidal preoccupation. Although there is a retardation and deep dejection, the patient is usually able to express his thoughts, and admits to thoughts of suicide. Sometimes there is a fear of giving way to a suicidal impulse rather than a desire to be dead.

When depression occurs we feel that reserpine should be discontinued and sedatives given for relief of tension and insomnia. In a few cases symptoms have subsided within a week or two; in others a course of electroplexy has been given with success. A few patients proved resistant and required several courses of electroplexy before the depression finally cleared up.

Two of our patients in this series made determined suicidal attempts after discharge from hospital and while on maintenance dosage of 2 mg. daily. Fortunately neither suffered serious injury. Both were depressed, but neither showed any return of the schizophrenic symptoms for which the treatment had been given originally. It may be significant that the pre-psychotic personality make-up of both these patients showed definite evidence of immaturity and instability. The attempt was an impulsive desire to be rid of an intolerable feeling of tension and depression; it was not premeditated, nor was it the result of delusional thinking or in response to a hallucination.

It seems probable that the risk of suicide in this reserpine-induced depression is greatest in personalities with a poor tolerance for tension. *It must be emphasized that this is a very serious complication of the treatment. It is quite unsafe to prescribe the drug unless the patient can be seen regularly by a doctor aware of the dangers involved.* Some out-patients may require admission to hospital.

Group 1. Chronic Deteriorated Schizophrenics

Our first group of cases were chosen from a small ward of chronic deteriorated patients who had been in hospital for many years. Twenty-two patients were included (11 male and 11 female). Their average age was 45 years and their average stay in hospital 13.5 years. The shortest stay was one year, but in her case there was evidence that she had been ill for ten years. The patients were chosen because of one or more undesirable features in their behaviour, such as resistiveness, aggressiveness, noisiness, or destructiveness. Only with three could one establish contact or make conversation. Some were having maintenance electroplexy to control their disturbed behaviour. Some had been on chlorpromazine hydrochloride, and in all cases the usual sedative drugs had been tried over the years.

Regime.—Reserpine was given orally in dosage of 2–8 mg. daily for an average period of 75 days. The initial dosage was 2 mg., but if there was no beneficial effect this was increased. Following this, control tablets were substituted without the knowledge of the medical staff—with the exception of the physician in charge of the clinical trial. The control tablets were given for an average period of 45 days, when reserpine was resumed in all the patients and dosage adjusted within the limits of 2–8 mg. to obtain the best response. Otherwise the routine of the patients was unchanged, except that any fresh interest in occupational therapy or social events was encouraged.

Side-effects were comparatively mild. Increased appetite and weight gain were frequent. Twelve of these very chronic patients improved on the drug, a few strikingly. Ten of them relapsed on controls, and two of these failed to regain improvement on a second course of reserpine. Most of those who improved did so in the first two weeks of treatment. A sedative effect, sometimes with drowsiness, was noted, beginning most usually from the second to the seventh day. Those in whom drowsiness was well marked did best.

These figures give an indication of the results, but cannot really convey the general improvement of the group in morale, in hygiene, in the standard of occupational therapy, and in the general happiness of both patients and staff in this section of the hospital.

There is general agreement in the published literature that reserpine is of value as a sedative in some patients of this type (Kline, 1954; Glynn, 1955; Noce *et al.*, 1955).

Group 2. Chronic Treated Schizophrenics

For the intensive treatment we chose first a group of patients whose illness was more recent than that of Group 1 but none the less chronic. None was ill for less than two years; the average duration of symptoms was 7.5 years (range 2–29 years). The average age was 35.5 years (range 18–52 years). In every case one or more of the physical methods of treatment had been tried and had failed to produce a sustained remission. The average duration of reserpine treatment was 193 days (range 53–470 days).

TABLE I.—*Treatments Previously Given to the 38 Patients (23 Male, 15 Female) in Group 2*

Previous treatment	No. of Cases
E.C.T.	37
Insulin	27
Leucotomy	19
Intravenous acetylcholine	12

Leucotomy was planned for 9 patients if reserpine failed to produce remission.

Table I shows the treatment previously given to the 38 patients in this group. In none had a sustained remission been produced. Leucotomy was projected in nine cases because of the continued failure to respond to treatment. All patients were classifiable as chronic hospital invalids or likely to fall into this class if projected leucotomy did not produce a remission. Twenty patients presented serious nursing problems because, under the influence of their delusions or their "voices," they became aggressive or negativistic.

All but four of these cases had been under our own observation in hospital for at least a year, many for much longer periods. Of the four patients treated in other hospitals, one had been leucotomized and three had had insulin and electroplexy combined. These patients were known intimately by the staff of the hospital, and every effort had previously been made, without success, to achieve a sustained remission. Thus this group of patients could act as their own controls. In none of these cases was the diagnosis in any doubt—all showed active schizophrenic process symptoms. Seventeen of the patients admitted to auditory hallucinations when reserpine treatment started; 31 were deluded, without insight; 24 had ideas of reference or influence; 22 showed marked affective blunting or incongruity.

In assessing results we tried to make our criteria as objective as possible. A clinical impression that the patient had improved was not regarded as valid unless it could be shown that specific psychotic symptoms had disappeared. The term "recovered" was deliberately avoided, in view of the short-term nature of the results. We classified the results into three groups: much improved, improved, and no improvement. These terms are defined in the legend below Table II.

Of the 17 patients who were hearing voices when the treatment started, 11 lost their hallucinations, but in two they returned. Of the 24 who had clear-cut ideas of reference or influence, 11 lost them. Of the 31 who had frank delusions, 15 lost them or showed considerable diminution in delusional ideas. Ten gained fairly good or good insight.

This group was a most instructive one because the case material was so well known to us, the symptomatology so clear-cut, and, since no other physical method of treatment was used once reserpine therapy started, improvement when it occurred could be attributed with reasonable certainty to the drug. The statistical details of this group are given in Tables II, III, and IV. One patient became depressed.

TABLE II.—*Response of Patients in Group 2*

	Much Improved	Improved	No Improvement	Total
Whole group	17	10	11*	38
Leucotomy	7	6	6	19
Insulin—E.C.T.—Leucotomy	4	6	3	13
" " —projected leucotomy	7	2	—	9

* Includes one case of depression.
Much improved = Free of all psychotic symptoms—that is, delusions, hallucinations, ideas of reference or influence, thought disorder, affective incongruity, or marked blunting; some insight.
Improved = Better, but with some residual symptoms, chiefly emotional flattening or incongruity.

TABLE III.—*Response of Patients in Group 2 Related to Age at Time of Treatment*

Age	Much Improved	Improved	No Improvement	Total
30 and under ..	6	6	4	16
31–40	9	4	3	16
41 plus	2	—	4*	6

Average age, 35·5 years. Range, 18–52 years.
* Includes one case of depression.

TABLE IV.—*Response of Patients in Group 2 Related to Duration of Symptoms*

Duration of Illness	Much Improved	Improved	No Improvement	Total
Less than 5 years	5	4	2	11
5–10 years ..	11	6	4	21
More than 10 years	1	—	5*	6

Average age, 7·5 years. Range, 2–29 years.
* Includes one case of depression.

Group 3. Chronic Untreated Schizophrenia of Insidious Onset

The third group of cases also could act to some extent as their own controls. The group consisted of recent admissions who were regarded as unsuitable for insulin treatment by reason of long history, insidious onset, or lack of florid features. It comprised 17 patients (14 male, 3 female), 16 of whom had never been in hospital before, and none had been ill for less than two years. One had been in hospital for 22 years but had never been treated by any of the physical methods because permission was refused by relatives.

In this group the average age was 29.4 years, ranging from 17 to 56 years. The length of illness ranged from 2 to 22 years, with an average of 6 years.

Five of the group had been given electroplexy since admission to hospital. In such chronic cases this was not given in the hope of any long-term benefit, but in order to obtain initial sedation or co-operation. Five patients had auditory hallucinations and nine had persecutory delusions. Nine showed apathy, withdrawal, lack of initiative, and marked affective blunting. Six cases might be termed "simple schizophrenia."

The dosage and general regime was the same as in Group 2, and the criteria used in assessing results were also the same. Nine patients were regarded as much improved and six as improved. Twelve have been discharged, and nine are known to be back at work. Details are given in Table V.

TABLE V.—*Response of Patients in Group 3*

	Much Improved	Improved	Not Improved	Total
Whole group ..	9	6	2*	17

"Much improved" and "improved" as defined in Table II.
* Includes one case of depression.

The results here are in some respects more unexpected than those in group 2, because the symptomatology was less florid, the pre-morbid personalities were less good, and the onset was more insidious. Although none had been thoroughly treated by the physical therapies, they had all been rated as unlikely to respond to these methods when reviewed by the staff at case conferences.

Group 4. Acute Schizo-affective Psychosis

The fourth group in this series were diagnosed as suffering from schizo-affective psychosis. It consisted of 21 patients (7 male, 14 female) who presented predominantly manic (7 cases) or depressive (14 cases) features. In addition, all cases showed some schizophrenic features such as auditory hallucinations or paranoid delusions. Seven depressed and five manic patients had had previous psychotic episodes. They had achieved a good remission of their symptoms, either with electroplexy (7) or electroplexy combined with insulin coma therapy (5). All but one had been treated in St. Patrick's Hospital. All the patients in this group were thought to have a good prognosis for the present episode. With two exceptions, patients were given reserpine because the expected remission did not follow one or more courses of electroplexy—the patient either did not improve or relapsed within a few weeks of treatment. All had been ill for less than one year. The average age was 39 years (range 18–61 years).

The two patients who went straight on reserpine therapy were recent admissions, but both had had previous episodes, one having achieved a remission following electroplexy and insulin, and the other having achieved a remission on reserpine given a year previously in an American hospital. Both these patients improved with reserpine alone, and they are both out of hospital and back at their work.

Because the illnesses reported in this group were of much shorter duration, a more rigid standard of assessment was used. The term "recovered" was again discarded, in view of the lack of follow-up period. Cases were classified as much improved only if free of all psychotic symptoms and if their pre-psychotic personality had been restored as judged by clinical observation. Cases regarded as improved were

better but had some residual symptoms or personality defects. The results are shown in Table VI.

TABLE VI.—*Response of Patients in Group 4*

	Much Improved	Improved	Not Improved (All Depressed)	Total
Depressed ..	5	1	8	14
Manic	5	1	1	7

Much improved = Free of all psychotic symptoms; pre-psychotic personality restored.
Improved = Better, but with some residual symptoms.

It is instructive to note that the incidence of depression was much higher in this group. This observation, if confirmed in larger series, would seem to indicate that this serious complication may occur chiefly, if not entirely, in those constitutionally predisposed to endogenous depression.

Group 5. Acute Schizophrenia

The last group under review consisted of 21 acute schizophrenics (5 male, 16 female). All had a history of under one year. Patients with marked manic or depressive features, and who might thus be regarded as suffering from a schizo-affective psychosis, were excluded. All showed active process symptoms. All had been ill for less than one year. Average age was 30 years (range 19–52 years).

In general the immediate prognosis in this group was regarded as very good. Six of the group had suffered from previous schizophrenic episodes (one or more). Five of them had remitted following insulin coma therapy, and one following electroplexy. Five other patients had recently completed full courses of insulin coma therapy without sustained improvement. In two cases a course of insulin treatment had been stopped—one because of hypersensitivity to insulin, and one because of her violent behaviour during sopor. Three were not given insulin because of a history of pulmonary tuberculosis, and one because she was considered too old. The remaining five patients were given reserpine as a first choice.

All patients in this group had been given a course of electroplexy on admission to hospital to control acute symptoms. They were given reserpine only when clear-cut schizophrenic symptoms persisted after electroplexy.

TABLE VII.—*Response of Patients in Group 5*

Much Improved	Improved	Not Improved	Depressed	Total
18	3	—	—	21

"Much improved" and "improved" as for Table VI.

The results were assessed by the same criteria as in group 4 and are shown in Table VII. The average duration of treatment in this group was 80 days. On the completion of treatment, 18 of the 21 patients were regarded as much improved and 3 as improved. Twenty of these patients have been discharged from hospital, and 15 are known to be back at their former occupations.

Since December 31, 1955, when the table was drawn up, two patients placed in the much improved group have been readmitted—one was brought back by her relatives in a state of deep depression, the other was noted to be rather depressed on a routine follow-up visit and was readmitted for observation. There has been no return of schizophrenic symptoms in either case.

Discussion

The results we have had are encouraging and justify the continued use of the treatment. Not only have some schizophrenics with all the characteristics associated with chronicity lost their process symptoms, but in many cases they have gained a surprising degree of insight.

A woman civil servant aged 35 was referred for inefficiency and absenteeism in 1952. She had the delusion that she was hypnotized by a strange man whom she had met some years previously, and his voice dominated her life. In 1952 a full course of insulin coma therapy (60 comas) made her less withdrawn and more sociable. She never lost her hallucination or gained insight. She has been seen by one of us (J. N. P. M.) periodically as an out-patient since then, but the picture has remained unchanged. In October, 1955, she was given a last chance by her employers and told that if she was late or absent again she would be dismissed from the service. She was readmitted to hospital and started on intensive reserpine therapy. After 10 weeks she spontaneously said in a shamefaced way—"Whether it is a good thing or not, at last I believe you when you say I am mentally ill." "Thank goodness the voice goes away sometimes—do you think I can get rid of it altogether?"

In this type of case the drug does not merely act as a sedative. Sometimes the psychotic process remits after reserpine therapy. Such a remission of symptoms occurred in a convincing number of cases. It occurred to patients, such as those in group 2, who had resisted other standard treatments, and in a regime unchanged except for the addition of the drug. We can offer no explanation of how this remission is achieved, but we would suggest that the drug has a central effect on schizophrenic patients. These become less influenced by their delusions and hallucinations. Fresh delusions and hallucinations cease to form. They can view their symptoms more objectively, and psychotherapy can play a part in bringing them into true perspective. They are more able to take interest in their surroundings, and active rehabilitation therapy is more likely to be successful.

Enthusiasm for a treatment in psychiatry always has a favourable influence on the patient. This factor plays much less a part when one has been dealing with psychotics, as we have in this study. Lavish enthusiasm and a placebo could not have produced the changes, often striking, which are reflected in our results. This is particularly true of patients in group 2 who were resistant to all other forms of treatment. The fact that this drug will in some patients produce a typical endogenous depression indicates that it has an action on some centre of fundamental importance in the development of mental illness. The associated effects on the pulse, blood pressure, and pupil, with the production of Parkinsonism, suggest that this may be in the region of the hypothalamus and basal ganglia. Experimental work tends to confirm this (Plummer *et al.*, 1954; Winsor, 1954).

A most impressive feature of the use of the drug is the quality of the remission. Insight into their morbid ideas, friendliness towards staff and fellow-patients, and a healthy interest in occupational and social activities is a usual rather than exceptional result of the treatment. This insight is reflected in the readiness with which patients agree to report for follow-up talks after leaving hospital. Appointments have been kept punctiliously, even though in some cases it meant a long journey by train or car. Liberal parole was granted as soon as improvement began and when side-effects permitted, and only a few have not returned to hospital.

Besides using the drug in the intensive way described in this series, we have given smaller oral dosage to a number of chronic schizophrenics. We are not reporting in a detailed way on these cases here. A number of well-preserved chronic hospital patients, as well as a number of ex-patients who attend our out-patient department for general advice and supervision, have benefited greatly by small doses of the drug—for example, from 1–4 mg. daily. A few have improved dramatically. Some have been able to remain out of hospital when otherwise admission seemed inevitable.

Another problem for the future, therefore, is to decide whether or not the large doses prescribed by Kline and Stanley (1955) and Barsa and Kline (1955), and followed in this work, are necessary. Our present impression is that where an active progressive schizophrenic process is present the intensive dosage may be necessary. It seems, too, that length of history may be an important factor in deciding both the length and the intensity of the treatment required.

For example, the average length of treatment in the acute group was 80 days, whereas in the chronic treated group it was 195 days.

Apart from the treatment of schizophrenia, we have used reserpine in a number of other psychiatric conditions. In general the results have not been so dramatic. Patients with endogenous depression are not improved (and may be made worse). We noted in the early stages of this trial (before we became aware of the danger of depression as a side-effect) that some patients who were restless, unsettled, and discontented after a course of electroplexy did become more settled on 1–3 mg. daily. It seems wiser, however, *never* to use the drug in cases of endogenous depression or in those with a past history of depression. Cases of anxiety neurosis were given the drug mainly by mouth on an out-patient basis. Rarely do they get any immediate subjective relief of their symptoms, and many are put off by the side-effects, such as nasal stuffiness or drowsiness, and stop the drug. Patients with chronic anxiety states who are underweight seem most helped by the drug. They may put on weight, and this is accompanied by a feeling of well-being and reduction in tension rather similar to the improvement one gets with modified insulin. Classical cases of anorexia nervosa appear to respond very well to the drug. Seven patients who showed the characteristic mixture of hysterical and obsessional traits in their personalities, with anorexia, amenorrhoea, emaciation, and restlessness, lost their symptoms and put on weight. Details of this group will be published elsewhere.

Apart from the statistical results given in the tables and mentioned in the text, the introduction of reserpine treatment has greatly changed the character of the hospital. Negativistic or impulsive behaviour has been much diminished, and the general morale of the wards has been correspondingly improved. Maintenance electroplexy is now seldom used.

Although patients do not like the treatment because of the irritating side-effects and the numerous injections involved, little difficulty is experienced in encouraging them to carry on with it. It does not arouse the fear and antagonism sometimes evoked by electroplexy and insulin treatment.

The restlessness induced by reserpine must be helped not only by sedation but by organized activity. Many more patients than formerly are well enough to take an active part in occupational, recreational, and social therapy. Classes of all kinds have had to be greatly increased. Physical training classes, relaxation classes, and organized games are particularly helpful in combating reserpine-induced restlessness. In the same way, outdoor work parties, digging, cutting grass, sawing logs, etc., are beneficial and mostly welcome activities, except where the patient is heavily under the influence of the drug.

With awakening insight, patients are in particular need of psychotherapeutic interviews, and the work of the medical staff in this respect has been greatly increased by the treatment. The fact that memory is not disturbed makes explanation and reassurance more rewarding as well as more necessary. Although we have not used group therapy in any formal way, it seems probable that, in future, only by this means can the medical staff cope adequately with the patient's needs.

It must be stressed that the results given here are the immediate results. Few cases have been in a state of remission for more than six months. We have satisfied ourselves that the drug can favourably influence a schizophrenic process, at least temporarily. Only a long-term follow-up can decide the drug's eventual place in the treatment of schizophrenia.

Summary

Reserpine given orally may benefit deteriorated chronic hospitalized schizophrenics with troublesome symptoms.

Chronic schizophrenics who have failed to achieve a sustained remission following E.C.T., insulin coma, or leucotomy may improve remarkably with intensive reserpine therapy. As a result of our experience we have made it a rule that no schizophrenic should be leucotomized without first having prolonged trial on reserpine.

Patients with schizophrenia of insidious onset but without florid symptoms or gross personality deterioration may respond favourably to intensive reserpine therapy. It is probably necessary to continue on an oral maintenance dose for a prolonged period.

Immediate results of reserpine therapy in acute schizophrenics are impressive. Observation over a prolonged period alone can determine whether in these early cases it is a better therapeutic agent than insulin coma therapy.

Severe depression of the endogenous type with characteristic early morning waking and suicidal preoccupation is the most serious complication of the treatment. The incidence of this complication was greatest in the schizo-affective type of psychosis. A past history of endogenous depression is a contraindication to the use of the drug.

Some chronic schizophrenics improve on oral dosage only. Intensive and prolonged treatment seems necessary in most cases of progressive schizophrenia.

Some patients with chronic anxiety states, especially if underweight, may benefit from oral reserpine. The results in most cases are not so dramatic as in schizophrenia.

Most patients on reserpine eat better and put on weight. Cases of anorexia nervosa may improve rapidly on the drug.

The extensive use of reserpine alters the character of a psychiatric unit considerably. Negativistic, aggressive behaviour is greatly diminished. Patients can enjoy more freedom and take a more active part in the hospital routine. It places an increased demand on hospital staff for individual psychotherapy.

We are indebted to Ciba Laboratories Ltd. for liberal supplies of reserpine in the form of "serpasil" and for supplies of "antistin-privine."

ADDENDUM

A follow-up of the 109 cases described above was undertaken from November 1, 1956. About half of these patients were interviewed either by one of us or by other members of the medical staff of St. Patrick's Hospital. Information about the remainder was obtained by letter from the patients, their relatives, or their family doctor. The results for groups 1 to 5 are shown in Tables Ia, IIa, IIIa, and IVa. The assessment criteria are the same as in the main paper.

TABLE Ia.—*Response of Patients of Group 2—Chronic Treated Schizophrenia*

Much Improved	Improved	No Improvement or Relapsed	Untraced	Total
16*	2	19	1	38

* One relapsed and was given a second course of reserpine.

TABLE IIa.—*Response of Patients of Group 3—Chronic Untreated Schizophrenia of Insidious Onset*

Much Improved	Improved	No Improvement or Relapsed	Untraced	Total
9	4*	2	2	17

* Three relapsed and were given a second course of reserpine.

TABLE IIIa.—*Response of Patients in Group 4—Schizo-affective Psychosis*

Case Type	Much Improved	Improved	No Improvement or Relapsed	Untraced	Total
Depressed ..	2	0	11	1	14
Manic ..	5*	0	2	—	7

* One relapsed and was given a second course of reserpine.

TABLE IVa.—*Response of Patients of Group 5—Acute Schizophrenia*

Much Improved	Improved	Relapsed	Untraced	Total
15*	2*	4	—	21

* One relapsed and was given a further course of reserpine.

It will be seen that the results confirm in a general way the trends of the initial assessment and encourage us to continue trial of this method of treatment.

A further year's experience suggests that smaller doses may give similar results with less distressing side-effects. At present an intramuscular dosage of 10 mg. daily is the exception rather than the rule. Our usual maximum dosage is 3 mg. orally and 5 mg. intramuscularly daily.

We hope to publish a further paper on a larger series with a detailed analysis of the factors influencing good or bad response, the relapse rate, and the incidence of depression.

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IDIOPATHIC OR HYPERCATABOLIC HYPOPROTEINAEMIA

CASE EXAMINED BY ^{131}I-LABELLED ALBUMIN

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Hypoproteinaemia is not an uncommon clinical finding, and is nearly always caused by an external loss of protein—for example, proteinuria, skin disease, bleeding—or a reduced protein synthesis (hepatic or intestinal disease, starvation, etc.).

In a few exceptional cases such low serum protein has been entirely inexplicable—idiopathic. A critical review of the literature shows that the reported cases which can be designated idiopathic hypoproteinaemia do not amount to more than 25.[1 2 4 6–18 21 22] Despite this small number of cases the syndrome appears to be well defined.

The main sign of this disease is oedema formation caused by and varying with the hypoproteinaemia, which (nearly) always affects the albumin and globulin fractions equally. In most instances the disease has persisted for months and often for years. Practically all the reported cases of idiopathic hypoproteinaemia have been particularly well studied. In addition to the low serum protein some of them have exhibited eosinophilia (4 out of 10 cases so examined) and several have been allergic, but all other tests have failed to show abnormalities.

Attempts at raising the serum protein level by oral administration of protein in large amounts have proved ineffective, although a highly positive nitrogen balance may be obtained thereby.[7]

Most authors have merely concluded that in idiopathic hypoproteinaemia protein synthesis is impaired. It has been suggested that this reduced protein synthesis is due to hepatic disease, but what kind of hepatic disease is not quite clear, as no patient with genuine idiopathic hypoproteinaemia has shown other signs of hepatic involvement.

The Degradation Theory

As no external loss of protein can be demonstrated and as there is no obvious cause why the production of protein should be reduced, the reason for the low serum protein might theoretically be imagined to be an internal loss—an increased degradation of protein.

Only a few authors have dwelt on this idea. As early as 1935, however Cope and Goadby[7] stated: "The possibility that unduly rapid breakdown of plasma protein was occurring could not be excluded, but was considered to be improbable."

In recent years, however, reports on four patients with idiopathic hyproproteinaemia indicate that in these patients there has been a question of increased breakdown of protein. In 1949 Albright, Bartter, and Forbes[1] (1 patient) and in 1955 Hennemann and Albright[11] (2 patients) studied the fate of intravenously administered albumin. These extremely difficult and painstaking investigations will not be described in detail here: suffice it to mention that during the experiment the patients received 52 g. of serum albumin intravenously every day for more than two weeks.

The results of these balance experiments unequivocally showed that, compared with normal persons, the patients retained only a small proportion of the administered albumin during the experimental period, whereas an excessive amount must have been burned or converted into protoplasm. These authors conclude[1] that "the disorder in albumin metabolism was not a decreased rate of synthesis, but an increased rate of destruction."

Kinsell *et al.*[14] studied the fate of intravenously administered ^{35}S-labelled methionine in some patients, including one with idiopathic hypoproteinaemia. This study also failed to show any signs of reduced plasma protein synthesis—rather the opposite. The rate at which ^{35}S disappeared from plasma protein by far exceeded that in normal people. Similarly, the urinary excretion of ^{35}S was increased compared with normal persons. Kinsell *et al.* sum up that "the basic defect is one of hypercatabolism."

Against the studies of Albright *et al.* it may be objected that intravenous administration of 50 g. of albumin daily for 16 days is rather an unphysiological procedure, and against the technique of Kinsell *et al.* that it may be difficult to assess the results of experiments with labelled amino-acids because of the possibility of their re-utilization. As patients with idiopathic hypoproteinaemia present special possibilities of elucidating the largely unknown mechanism which regulates serum proteins, it seemed to us of great interest to study the serum protein turnover, using directly labelled

protein. By this method only a few milligrams of protein are administered, and re-utilization is of no importance.

Such a study was carried out in the case reported below.

Case Report

A 25-year-old woman was first admitted to the Central Hospital, Silkeborg, on June 13, 1955, because of oedema of the legs. Her family history was negative. She had possibly had "jaundice" in childhood, but was otherwise in good health. Menstruation was normal. From the age of 17 she had been suffering from swelling of the ankles and lower legs, gradually ascending to the knees. The swelling had been most pronounced in the right foot and lower leg, but during recent years it had also involved the left hand. Facial oedema had never been observed. Apart from these swellings, there were no complaints. At another hospital the serum protein level was found to be 5.5% (albumin 3.7%, globulin 1.8%), when she was 20 years of age. At 22 she was treated in a surgical department for crural oedema by paste bandage. Phlebography as well as oscillometry showed normal findings.

The patient had spent a total of 113 days at the Central Hospital, Silkeborg, during which the condition had remained entirely unchanged, characterized by moderate but persistent oedema of the feet and lower legs. Upon bed rest they subsided slightly. Apart from the oedema nothing abnormal was found: development and nutrition were normal. Radiological examination of the stomach and small intestine gave normal findings. Chest radiography and E.C.G. were normal. *X*-ray films of sella turcica: small, measuring 10 by 7 mm. Ophthalmological examination normal.

Laboratory Tests.—Height, 154 cm.; weight, 48.9 kg. Haemoglobin, 90%; R.B.C., 4,560,000; colour index, 0.96; E.S.R., 1 and 2 mm./hour; W.B.C., 8,690 (staff cells 17%, polymorphonuclears 59%, eosinophils 8%, lymphocytes 13%, monocytes 3%). Sternal marrow: slight eosinophilia, no other definite abnormality. Urine: no albumin (several tests) or sugar. Blood urea: 20, 28, and 18 mg. per 100 ml.; blood urea clearance, 75% of normal. Serum bicarbonate, 27.6 mEq; serum chloride, 105–102 mEq; serum phosphorus, 6.6–3.8 mg. per 100 ml.; serum calcium, 9.3–8.6 mg. per 100 ml.; serum potassium, 16.7 mg. per 100 ml.; serum cholesterol, 122, 105, and 180 mg. per 100 ml.; total lipid in serum, 690 mg. per 100 ml.; alkaline phosphatases in serum, 2.5 units (Buch). Icterus index, 3. The bromsulphthalein, thymol turbidity, and Takata–Ara tests were negative. Faeces: No blood; excretion of fat normal. Adrenal cortical hormones in urine: 24-hour excretion of 17-ketosteroids, 6.2 mg.; reducing corticoids, 1.07 mg. (normal). Thorn's test with adrenaline, 50% decrease in eosinophils, with corticotrophin 25%, decrease (?). Skin tests with various allergens, all negative. Histamine test meal, free acid present. Glucose tolerance, normal curve. *Serum protein:* 4% (albumin 2.6%, globulin 1.4%). Paper electrophoresis: total protein 4.1% (albumin 53%, alpha$_1$ 7.3%, alpha$_2$ 13.6%, beta 13.1%, gamma 13.1%). Fibrinogen 650 mg. per 100 ml. (normal 200–400 mg.). Oedema fluid 0.2% (albumin).

Thus the essential result of the numerous laboratory tests was a marked decrease in serum proteins, a decrease which affected all fractions equally. In addition there was slight eosinophilia, whereas no other tests showed definitely abnormal values.

The patient had been tentatively treated with a high-protein diet for two weeks, with testosterone for three weeks, and with corticotrophin for 18 days without the slightest effect. During the observation period the serum protein values have remained about 4% and there have been no changes in the individual fractions.

Serum Albumin Turnover

For this study we used human serum albumin prepared at the State Serum Institute by the method of Cohn (more than 99% pure albumin), and labelled with ^{131}I by the method of Veall *et al.*[20] The finished iodinated albumin contains 5 atoms of iodine per molecule of protein; upon paper electrophoresis it is indistinguishable from non-iodinated albumin. The non-protein-bound radioactivity was <0.5%. Studies of the albumin turnover by ^{131}I-labelled albumin have been described on several occasions.[8 19] The rationale of this method is that the labelled albumin will be dealt with by the organism just as its own albumin. When the labelled albumin has mixed with the subject's native albumin the plasma radioactivity will act as an indicator of the albumin's rate of degradation, which will also be reflected by the urinary excretion of ^{131}I.

Since the turnover rate of iodine-labelled proteins is more rapid than that of biologically labelled proteins, and since it may also vary within certain limits, presumably because, in spite of everything, proteins change slightly during iodination, the determination is relative rather than absolute. Each batch of labelled protein must therefore be tested on a number of normal persons in addition to the patients being investigated.

In our study the albumin turnover was determined in three normal persons as well as the hypoproteinaemic patient. All four subjects were hospitalized, given ordinary diet, and permitted moderate activity. In order to secure a rapid excretion of iodine and inhibit thyroid uptake of ^{131}I, we administered a 3% solution of potassium iodide, 30 g. daily.

The labelled albumin was injected intravenously (30 mg. of albumin with an amount of radioactivity of about 90 microcuries), and heparinized blood samples were drawn every day or every other day for more than two weeks, the first sample being obtained 10 minutes after the injection.

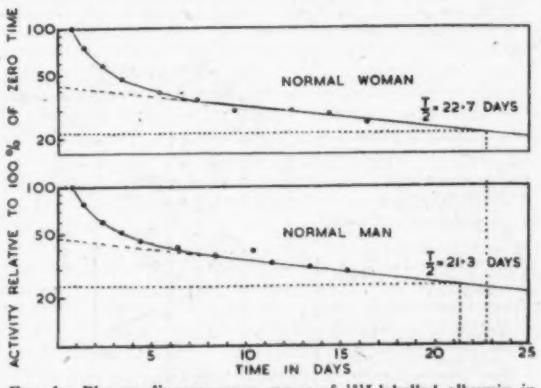

FIG. 1.—Plasma disappearance curve of ^{131}I-labelled albumin in two normal subjects.

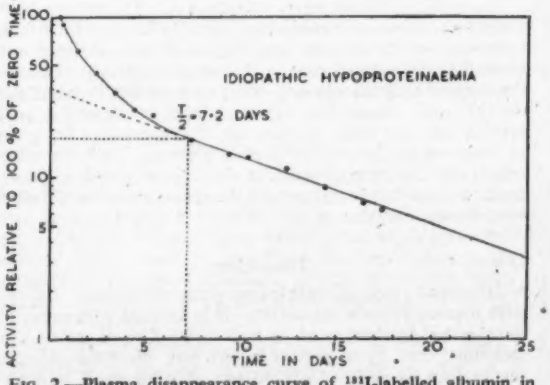

FIG. 2.—Plasma disappearance curve of ^{131}I-labelled albumin in patient with idiopathic hypoproteinaemia.

The plasma radioactivity was determined on 0.4-ml. samples dried in aluminium dishes and counted with a Geiger counter and a Brüel and Kjær scaler. No correction was made for self-absorption (all specimens from the same subject were of the same weight).

The measurements of radioactivity (counts per minute) were corrected for decay if necessary, and converted to percentages of the 10-minute sample, which was also used to determine the plasma volume.

Fig. 1 gives the disappearance curve for the labelled albumin in a semilogarithmic scale for two of the three normal subjects, and Fig. 2 for the patient with idiopathic hypoproteinaemia. The curve consists of two parts: a curved portion extending over the first five to six days, corresponding to the mixing of the labelled albumin with the native albumin—that is, the "albumin phase"—and a straight line representing the degradation of the injected iodinated albumin (or the rate at which labelled albumin is replaced by unlabelled albumin).

The slope of the straight line indicates the rate of albumin turnover—the steeper the curve the quicker the turnover. The half-time ($T\frac{1}{2}$) of the administered albumin may be determined graphically as seen from the figures, and from the equation representing exponential decay the decay constant (λ) may be calculated.

On the basis of the values shown on the curve and the serum albumin percentage it is now easy to compute the total amount of albumin in the body as well as its distribution into intravascular and extravascular sites (cf., for example, Sterling[19]).

The Table sets out these values for the three normal subjects and for the patient with idiopathic hypoproteinaemia.

Data Pertaining to Distribution and Degradation of ^{131}I-labelled Serum Albumin in Three Normal Persons and Patient with Idiopathic Hypoproteinaemia

	Persons Studied			
	Normal			Idiopathic Hypoproteinaemia
	M.	F.	F.	
Age (years)	26	40	47	25
Weight (kg.)	83	70	53	50
Plasma volume (ml.)	3,970	3,460	2,780	2,200
Serum protein (%)	7·1	7·4	6·8	4·3
,, albumin (%)	5·47	5·03	4·50	3·01
Total exchangeable albumin (g.)	440	407	308	190
Intravascular albumin (g.)	217	174	125	65
Extravascular ,, ,,	223	233	183	125
Albumin turnover half-time (T/2) in days	21·3	22·7	23·9	7·2
Albumin degradation %/day	3·26	3·06	2·90	9·64
,, ,, g./day	14·3	12·4	8·94	18·3
,, ,, g./day/kg.	0·172	0·177	0·169	0·366
Total renal excretion of injected dose ^{131}I in first 14 days following injection of labelled albumin			50%	91·9%

The result of the study is unequivocal. The patient with idiopathic hypoproteinaemia has a greatly increased albumin turnover. In our case the degradation rate for albumin was more than three times that in the normal subjects. Despite the greatly reduced amount of protein at her disposal the patient with idiopathic hypoproteinaemia degraded and synthesized over twice the amount of albumin per kilogram of body weight formed by normal persons. That the albumin is not merely removed, but also broken down, is shown from the fact that in our patient the renal excretion of iodine was about twice that in the normal subjects.

Discussion

The result—that idiopathic hypoproteinaemia is associated with marked protein catabolism—is in keeping with previous findings by Albright *et al.* as well as by Kinsell *et al.* The technique used by us cannot in any way affect the albumin metabolism as such. Only 30 mg. of albumin is administered, and the label substance (^{131}I) is not re-utilized, but excreted. The entire picture reminds one of that found by the same technique in nephrotic patients, apart from the fact that in the latter the lost protein is recovered in the urine.[3] The old designation of idiopathic hypoproteinaemia "nephrosis without nephrosis" is in fact not out of place, although a linguistic monstrosity.

Now, three different methods of studying the protein turnover in a total of five patients with the rare disease idiopathic hypoproteinaemia have given the same result. It seems reasonable, therefore, to postulate that it is increased protein catabolism and not reduced synthesis which is the basal defect in all cases of this disease. A better name would therefore perhaps be "hypercatabolic hypoproteinaemia." Still, this result does not solve the mystery of idiopathic hypoproteinaemia, but it must alter the approach of future studies. The mechanism which regulates the protein concentration of the blood is largely obscure. Perhaps the hormones of the adrenal cortex are operative, but we do not know how such regulation is effected. Messinger's[18] patient was apparently cured after having become pregnant, and Messinger interpreted this as a sign that the disease was due to temporary disturbance of anterior pituitary function (the patient had previously suffered from mild thyrotoxicosis).

A defect in the regulation of, at any rate, serum albumin may be seen from the fact that serum albumin remains low in these patients.

Balance at a low but not at a high albumin level must be interpreted on the supposition that the albumin level *per se* influences the catabolism, which must fall with a decreasing albumin concentration, or—presupposing a uniformly high albumin degradation regardless of the albumin concentration—that albumin synthesis increases with decreasing albumin concentration.

It is of particular interest that among the proteins of the body the plasma proteins appear to be affected selectively by the rapid degradation. The haemoglobin turnover, for instance, appears to take place at the usual rate, and experience from paediatric practice does not indicate a reduced rate of growth in children with idiopathic hypoproteinaemia. It must be mentioned also that these patients may well acquire a positive nitrogen balance. This would be difficult to explain if the protein catabolism in all tissues were increased to several times the normal.

Serum-protein hypercatabolism may remind one to a certain extent of the conditions in haemolytic anaemia, and this raises the question of how much serum protein the organism can produce. The present experiments determined only the albumin turnover. Kinsell *et al.* determined the total plasma protein turnover, so it is not yet known whether the rate of globulin turnover is increased as well. Since the present method utilizing ^{131}I-labelled albumin must be presumed to afford a relative rather than an absolute measure of the albumin turnover rate, this question must await investigations using biologically labelled proteins.

Summary

Until recently it was believed that the low serum protein level in the rare disease idiopathic hypoproteinaemia was due to reduced protein synthesis.

Recent studies comprising a total of four patients indicate, however, that the basic defect is one of hypercatabolism.

A typical case of idiopathic hypoproteinaemia of eight years' duration is reported. In this patient, too, a study of the albumin turnover with ^{131}I-labelled serum albumin showed a greatly increased catabolism of albumin. We therefore suggest that the disease be called hypercatabolic hypoproteinaemia.

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ORAL ADMINISTRATION OF PENICILLIN

WITH A NOTE ON METHODS OF ASSAY

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It has been noted that all preparations of penicillin, when given by mouth, are unstable in the acid medium of the stomach and are poorly absorbed from the gastro-intestinal tract. Oral penicillin therapy has thus been of value only in children, in whom the gastric acidity is lower (Cathie and MacFarlane, 1953).

In 1940 it was established that by the addition of various chemicals to the medium in which the mould was grown a variety of penicillins could be obtained, differing widely in their physical and antibacterial properties. Behrens *et al.* (1948), by using N-(2-hydroxyethyl)-phenoxyacetamide as the precursor substance, isolated phenoxymethyl penicillin. However, the *in vitro* effect of this differed only slightly from that of penicillin G, and it was not until Brandl *et al.* (1953) demonstrated its acid stability that its use as an oral penicillin was realized. Several articles appeared on the Continent confirming its value (Giovannini, 1954; Sjoberg *et al.*, 1955; Spitzy, 1955), and the preparation was marketed under the name of "distaquaine V." The recent work in America (Jones and Finland, 1955; Martin *et al.*, 1955; Wright *et al.*, 1955) has been the subject of two leading articles (*B.M.J.*, 1956; *Lancet*, 1956), and we have already reported a preliminary survey of the serum levels obtainable (Henry and Meynell, 1956). Most papers have demonstrated that adequate and reliable absorption can be obtained with distaquaine V, but comparison is usually made with oral crystalline penicillin G. The latter is known to be inadequately absorbed, the amount recoverable in the urine being in the region of 12% (Wright *et al.*, 1955). It was thus felt that injected penicillin would give a better basis for comparison.

The object of this paper is to compare the serum levels and urinary excretion rates obtained with phenoxymethyl penicillin (distaquaine V) and benzathine penicillin ("penidural") given orally, with crystalline penicillin G, and procaine penicillin ("avloprocil") given by intramuscular injection. In addition, the accuracy of the two standard methods of assay has been compared—the serial broth dilution method using *Staphylococcus aureus* (Oxford strain) and the plate method using *Sarcina lutea*.

Method

Six subjects were given 200,000 units of each preparation in turn, and thus acted as their own controls. The dose was given before meals and blood withdrawn at ½, 1, 2, 3, and 4 hours, except in the case of procaine penicillin, when the intervals were ½, 1, 2, 6, and 24 hours.

The bladder was emptied before the administration of the penicillin, and thereafter a 24-hour specimen of urine was collected; the volume was measured and an aliquot retained for assay. Serum levels were estimated on the same day by both methods, but in the case of the urine assays the *Staph. aureus* method was found to be unsuitable and the *Sarcina lutea* method only was used.

Staph. Aureus Method.—Serial dilutions of the serum are made in 1% glucose broth, containing Andrade's indicator, and to each tube is added one drop of an overnight culture of the Oxford strain of *Staph. aureus* (sensitive to 0.02 unit of penicillin per ml.). Readings are taken after 18 hours' incubation at 37° C. and the end-point is read according to colour change in the medium and visible growth, both being compared with a control estimation, using normal serum containing a known amount of penicillin. The end-point is sometimes difficult to judge, and it may be necessary to subculture the tubes on to a solid medium.

Sarcina Lutea Method.—Two media are used—a "base" layer with a "flood" layer superimposed. The base layer is made up of 1.5 g. of "lemco," 3 g. of "bacto" yeast, 6 g. of bacto peptone, and 15 g. of agar, suspended in 1 litre of water.

The flood layer is the same as the base layer with the addition of 1 g. of dextrose. The organism used is *Sarcina lutea* CPI—1001 (N.C.T.C. 8340). This is grown on slopes of flood layer agar, and after 18 hours' incubation is washed off with normal saline and the opacity is adjusted to that of a No. 8 Burroughs Wellcome opacity tube. If a standard Petri dish is used, base medium is poured in 10-ml. amounts and allowed to set. The flood medium is brought to 50° C. and is inoculated with the sarcina suspension, 2 ml. per 50 ml. of flood layer medium. Immediately after inoculation 4 ml. amounts of the medium are poured on to each plate containing the base medium. The plates are allowed to set and four holes punched in each, a No. 5 cork-borer being used, although the method is actually independent of the size of the hole.

Assay Procedure

Three plates are used for each assay. A standard solution of penicillin containing 0.1 unit per ml. is prepared, and the serum to be assayed is diluted to approximately the same strength with *p*H 7.5 phosphate buffer. Both these solutions are then diluted further (usually twice) with buffer, and four drops of a given dilution are introduced into the four holes on each plate, using a pipette delivering 70 drops per ml.

The plates are incubated at 26° C. for 18 hours, when the diameters of the clear areas are measured with a millimetre steel rule, and the average of the readings on the three plates is used in the calculation.

Calculation

The concentration of penicillin which diffuses through the agar diminishes exponentially with increasing distance from the punched hole. Since all four readings are on the same plate and are taken at the same time, the size of punched hole can be eliminated.

This leads to a formula of the type:

$$T_2 = S_2 \lambda^{\frac{(R_2-r_2)(R_1-r_1)[(R_2-R_1)+(r_2-r_1)]}{(r_2-r_1)(R_2-R_1)[(R_2-r_2)+(R_1-r_1)]}}$$

which, on taking logs, becomes

$$\text{Log}_{10} T_2 = \text{Log}_{10} S_2 + \left[\frac{(R_2-r_2)(R_1-r_1)[(R_2-R_1)+(r_2-r_1)]}{(r_2-r_1)(R_2-R_1)[(R_2-r_2)+(R_1-r_1)]}\right] \log_{10}\lambda$$

However, if $\lambda = 2$ and the diameters are similar, a simpler formula may be used, thus:

$$\text{Log}_{10} T_2 = \text{Log}_{10} S_2 + \left[\frac{(R_2-r_2)+(R_1-r_1)}{(R_2-R_1)+(r_2-r_1)}\right] \text{Log}_{10}\lambda$$

where T_2 is concentration of test solution; S_2 is concentration of standard solution; λ is the dilution ratio used; r_2 is radius of clear area using solution S_2; r_1 is radius of clear area using diluted solution S_2/λ; R_2 is radius of clear area using solution T_2; R_1 is radius of clear area using diluted solution T_2/λ. The diameters can be used in place of the radii without any alteration in the formula.

Results

The serum levels and urinary excretion rates for each preparation are given in Tables I–IV. The figures obtained with the *Sarcina lutea* method are given first, the corresponding levels for the *Staph. aureus* method being given in parentheses.

Side-effects were not noted in any subject.

Discussion

From the tables it is clear that parenteral penicillin is well absorbed from the site of injection, whether in the crystalline form or as a depot preparation. In the former a high level is reached after half an hour, falling below the therapeutic concentration of 0.1 unit per ml. after three hours; in the latter the levels are lower, but the effect lasts for over six hours. In both, approximately 75% of the injected penicillin (in terms of biological activity) can be recovered in the urine.

In contrast, oral penicillin is affected by a number of variable factors. These include the gastric acidity, the rate of stomach emptying, and the absorptivity of the intestinal mucosa. With phenoxymethyl penicillin this was reflected by the demonstration of only 30% of the ingested penicillin in the urine. The serum levels were correspondingly lower, but were still adequate, and remained above the therapeutic level (0.1 unit per ml.) for over three hours, although the rate of absorption varied in individual subjects.

With benzathine penicillin the results were much less satisfactory. Only 5–10% of the ingested dose was recoverable in the urine, and even when a therapeutic level was reached this was in no case sustained for over one hour. The levels obtained were in no way comparable with those of injected penicillin or phenoxymethyl penicillin.

Note on Methods of Assay.—The method using *Sarcina lutea* is reliable and has an accuracy within 5%, but it is laborious to carry out and requires an incubator set to 26° C. The *Staph. aureus* method is much simpler and requires no special equipment, but, being a serial dilution method, has an inherent accuracy of only 50% in that the actual concentration of penicillin lies somewhere between the end-point tube and the tube containing the next highest dilution. In no case should the level obtained with the sarcina method be lower than that with the *Staph. aureus* method. However, on comparing the results of both methods, in 44 out of 120 readings the *Staph. aureus* method failed to give levels even within this wide range of accuracy, and can thus be discounted as a method of assay when the absolute concentration of penicillin is to be determined. However, its simplicity renders it the method of choice when the sensitivity of an infecting organism is known, and assays are carried out

TABLE I.—*Crystalline Penicillin G*, 200,000 *U.* (*I.M.*)

Subject	Serum Penicillin Levels (U./ml.)* ½ Hr.	1 Hr.	2 Hr.	3 Hr.	4 Hr.	24-hour Urine Vol. (ml.)	U./ml. Conc.	Total Amount	% Excreted
L.H.	6·2 (5·12)	4·19 (2·56)	0·632 (0·32)	0·18 (0·16)	0·021 (0·08)	1,930	95	183,350	91·1
G.W.	3·9 (5·12)	2·97 (2·56)	0·44 (0·32)	0·17 (0·16)	0·027 (0·08)	1,125	88	99,000	49·5
M.J.M.	4·3 (5·12)	3·9 (2·56)	0·41 (0·32)	0·16 (0·16)	0·15 (0·16)	1,820	92	167,440	83·7
P.J.D.	4·2 (5·12)	3·5 (2·56)	0·38 (0·32)	0·15 (0·32)	0·042 (0·08)	905	208	188,240	94·1
A.L.T.	3·9 (5·12)	2·6 (1·28)	0·13 (0·16)	0·076 (0·16)	0·021 (0·04)	815	180	146,700	73·3
B.J.B.	3·7 (5·12)	4·6 (2·56)	0·47 (0·32)	0·25 (0·16)	0·03 (0·08)	1,710	88	150,480	75·2
Average	4·7 (5·12)	3·63 (2·35)	0·41 (0·29)	0·16 (0·19)	0·042 (0·09)				77·8

* Results with *Sarcina lutea* method are given first. Those with *Staph. aureus* method are given in parentheses.

TABLE II.—*Procaine Penicillin*, 200,000 *U.* (*I.M.*)

Subject	Serum Penicillin Levels (U./ml.) ½ Hr.	1 Hr.	2 Hr.	6 Hr.	24 Hr.	24-hour Urine Vol. (ml.)	U./ml. Conc.	Total Amount	% Excreted
L.H.	0·62 (0·64)	0·88 (0·64)	0·74 (0·64)	0·48 (0·64)	Nil	1,620	110	178,200	89·1
G.W.	0·79 (0·32)	0·83 (0·64)	0·98 (0·64)	0·37 (0·32)	,,	1,814	82	66,748	33
M.J.M.	0·5 (0·32)	0·75 (0·64)	0·86 (0·64)	0·43 (0·64)	,,	1,400	95	152,000	76
P.J.D.	0·78 (0·64)	1·02 (0·64)	0·93 (0·64)	0·23 (0·16)	,,	730	248	181,040	90
A.L.T.	0·24 (0·16)	0·30 (0·16)	1·52 (1·28)	0·30 (0·16)	,,	740	210	155,400	77·
B.J.B.	0·56 (0·32)	0·72 (0·32)	0·48 (0·32)	0·31 (0·16)	,,	820	180	155,800	77
Average	0·58 (0·40)	0·75 (0·51)	0·92 (0·69)	0·35 (0·38)	,,				73·7

See footnote to Table I.

TABLE III.—*Phenoxymethyl Penicillin*, 200,000 *Units Orally*

Subject	Serum Penicillin Levels (U./ml.) ½ Hr.	1 Hr.	2 Hr.	3 Hr.	4 Hr.	24-hour Urine Vol. (ml.)	Conc. U./ml.	Total Amount	% Excreted
L.H.	0·88 (1·28)	4·82 (5·12)	0·72 (0·64)	0·18 (0·16)	0·02 (0·04)	2,280	15	34,200	17
G.W.	1·26 (2·56)	2·43 (1·28)	0·37 (0·32)	0·14 (0·16)	0·026 (0·08)	1,500	49	73,500	36·5
M.J.M.	1·8 (1·28)	0·14 (0·32)	0·137 (0·16)	0·19 (0·16)	0·147 (0·16)	1,800	40	72,000	36
P.J.D.	Nil (0·04)	2·67 (2·56)	0·228 (0·32)	0·14 (0·16)	Nil (0·04)	710	53	37,630	18
A.L.T.	Nil (0·04)	0·24 (0·16)	3·8 (1·28)	0·77 (0·64)	0·05 (0·16)	1,100	55	60,500	30
B.J.B.	2·6 (2·56)	2·5 (1·28)	0·52 (0·32)	0·18 (0·08)	0·05 (0·04)	1,620	54	87,480	43
Average	1·09 (1·29)	2·13 (1·79)	0·63 (0·511)	0·27 (0·23)	0·05 (0·09)				30·1

See footnote to Table I.

TABLE IV.—*Benzathine Penicillin*, 200,000 *Units Orally*

Subject	Serum Penicillin Levels (U./ml.) ½ Hr.	1 Hr.	2 Hr.	3 Hr.	4 Hr.	24-hour Urines Vol. (ml.)	Conc. U./ml.	Total Amount	% Excreted
L.H.	0·06 (0·08)	0·120 (0·16)	0·026 (0·08)	Nil ,,	Nil ,,	1,210	9·6	11,616	6
G.W.	0·029 (0·04)	Nil (0·04)	Nil ,,	,, ,,	,, ,,	730	27	19,710	10
M.J.M.	0·13 (0·08)	0·18 (0·16)	0·052 (0·04)	0·013 Nil	,, ,,	1,290	11·4	14,706	7
P.J.D.	0·26 (0·16)	0·063 (0·04)	0·035 (0·04)	,, ,,	,, ,,	720	17·1	12,312	6
A.L.T.	0·045 (0·08)	0·13 (0·04)	0·012 Nil	,, ,,	,, ,,	720	16·2	11,664	6
B.J.B.	0·21 (0·16)	0·14 (0·08)	0·03 (0·04)	0·01 Nil	,, ,,	820	12·6	10,332	5
Average	0·12 (0·10)	0·11 (0·09)	0·026 (0·003)	0·004 Nil	,, ,,				6·7

See footnote to Table I.

to ensure that a certain minimum concentration of penicillin is being obtained, the actual level being unimportant provided it is above the therapeutic one for the organism concerned.

Owing to the possible contamination of the urine, the *Staph. aureus* method is unsuitable for urine penicillin assays and the *Sarcina lutea* method must be used.

Summary and Conclusions

Serum penicillin levels and urine excretion rates were measured in six subjects, using two intramuscular and two oral preparations of penicillin. The two standard methods of assay are described in some detail, and the results obtained with both methods are compared.

The results obtained clearly indicate that oral penicillin is no substitute for parenteral therapy when consistently high levels are required. Where oral therapy is indicated phenoxymethyl penicillin gives adequate and reliable blood levels. Benzathine penicillin appears to give disappointing results in adults, and it is probably of more value in children.

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RAPID INTRAVENOUS TRANSFUSIONS IN CHILDREN

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Bayliss and Starling (1894) showed that rapid injections of crystalloid solutions and blood caused a rise in venous pressure in dogs. Previous cord transections at the level of T 1 had increased the capacity of their vascular system by one-quarter. In 1918 Starling pointed out that transfusions in anaemic patients caused the heart to behave as an overloaded heart–lung preparation, giving further rise to an already elevated venous pressure. This resulted in a fall of cardiac output and pulmonary oedema. Cabot (1926), Ellis and Faulkner (1939), and Sharpey-Schafer (1944) found the cardiac silhouette enlarged on radiological examination, electrocardiographic changes, and increased cardiac weight at necropsy in anaemic patients. Sharpey-Schafer and Wallace (1942b) found increased cardiac diastolic size and electrocardiographic changes after transfusions in normal patients. In fatal cases necropsy has shown pulmonary oedema and cardiac dilatation (Plummer, 1936: Fishberg, 1937; Drummond, 1943). According to Riddell (1939) the commonest cause of fatality following blood transfusion is circulatory failure secondary to overloading.

This paper is a report on three anaemic children to whom 16 very rapid transfusions—35–50 ml. a minute—were given under general anaesthesia. There were no ill effects.

Case Reports

Case 1.—A boy aged 6, weighing 2 st. 1 lb. (13.2 kg.) and 3 ft. 8 in. (112 cm.) in height, with congenital hypoplastic anaemia, had a systolic murmur most clearly audible in the pulmonary area, and a liver enlarged to three fingerbreadths below the right costal margin. By May, 1955, he had received a total of 51 transfusions. Initially these consisted of 50 ml. of whole blood, but later he was being transfused with the packed cells from 1 pint (570 ml.) of blood. These earlier infusions were administered under basal narcosis—rectal thiopentone, 1 g. per 50 lb. (22.5 kg.) body weight—given in 20–30 minutes. Splenectomy in March, 1955, brought no improvement. Since June, 1955, he has received nine rapid transfusions under general anaesthesia, each consisting of the fresh packed cells from 2 pints (1,140 ml.) of blood. Blood-volume estimations were performed on three occasions.

Case 2.—The patient was a boy aged 7 weighing 3 st. 11 lb. (25 kg.) and 3 ft. 6 in. (107 cm.) in height, with congenital hypoplastic anaemia, probably of the Fanconi (1927) type—that is, with small head and pigmentation, though this latter may have been due to early haemochromatosis. The heart and respiratory systems appeared normal, but the liver was enlarged to two fingerbreadths below the right costal margin. By June, 1955, he had received a total of 93 intravenous blood infusions consisting of 50 ml. of whole blood, and later the packed cells from 1 pint (570 ml.) of blood. The operation was conducted under basal narcosis—rectal thiopentone, 1 g. per 50 lb. (22.5 kg.) body weight—and completed in 20–30 minutes. Splenectomy in May, 1953, produced no improvement. Since June, 1954, six very rapid transfusions have been given under general anaesthesia, each consisting of the fresh packed cells from 2 pints (1,140 ml.) of blood. On three occasions blood-volume estimations were performed and venous pressure changes were recorded manometrically once.

Case 3.—A girl aged 4, weighing 2 st. (12.7 kg.) and 3 ft. 3 in. (99 cm.) in height, had a neuroblastoma of the left adrenal gland. The cardiac and respiratory systems were normal. She had received two previous slow transfusions each consisting of 1 pint (570 ml.) of whole blood. We transfused her rapidly once under general anaesthesia with 1 pint (570 ml.) of whole blood.

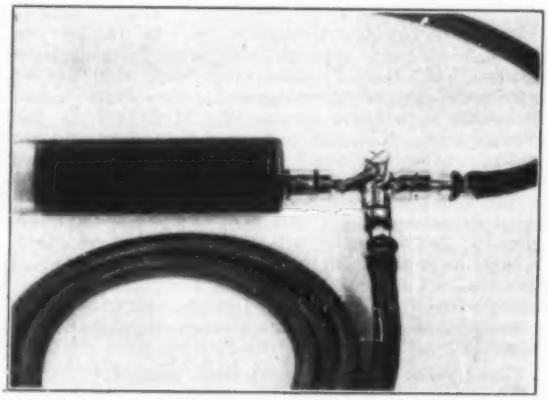
Method

Each child was given a fat-free diet for 18 hours before transfusion. Pentobarbitone sodium, 0.6 gr. per stone (6 mg. per kg.), was given one hour before operation, and atropine, 1/100 gr. (0.65 mg.) hypodermically, half an hour preoperatively. A quiet induction of anaesthesia was achieved with nitrous oxide, oxygen (30%), and trichlorethylene, and maintenance was with nitrous oxide, oxygen (30%), and ether. A Dinsdale (1954) respirator was used in order to assure minimal resistance to respiration. A high flow of gases was maintained in order to prevent accumulation of carbon dioxide.

The apparatus for transfusion was of a modified scalp vein type with Luer–Lock fittings (see Fig.) (Black *et al.*, 1951; Mollison, 1951). The packed cells were usually

given into the back of the hand. On one occasion (Case 1) the blood was given direct into the internal jugular vein.

Blood-volume estimations were performed, using 1% Evans blue (T.1824)—16 mg. diluted to 10 ml. with distilled water. A baseline specimen of blood was collected, after which the dye was injected. A second specimen of blood was taken after 10 minutes to allow adequate mixing (Gibson and Evans, 1937). The child was then transfused and three further blood specimens were taken, preferably from the opposite arm at intervals of 7, 15, and 30 minutes. The plasma volumes were calculated photoelectrically (Harington *et al.*, 1940) using a wavelength of 620 and a red filter. The average plasma volume at 10 minutes after transfusion was obtained by plotting a time/concentration graph. From



these results and estimations of packed cell volume the total blood-volume changes were determined. Blood-volume estimations were also performed in Cases 1 and 2 without transfusion, to show that rapid excretion of the Evans blue dye via the reticulo-endothelial system and biliary tract (Gibson and Gregersen, 1935) occurred neither during mixing nor for 30 minutes afterwards (Crooke and Morris, 1942). The plasma volume at zero time had to be assumed to be the same as that at 10 minutes after injection of the dye. This implies a calculated error of less than 2% (Russell, 1949).

Results

The results of the investigation are shown in Table I. During the first three transfusions in Cases 1 and 2 continuous electrocardiographic recordings showed no change apart from slight slowing of pulse on two occasions. Before transfusion the jugular venous pressure was not elevated, but this was probably because the haemoglobin was seldom allowed to fall below 45%. An increased venous filling became obvious after anaesthesia had been induced. After the transfusion the jugular veins looked fuller, but, as the children were anaesthetized and lying supine, no accurate assessments of the jugular venous pressure were made. Direct manometric readings in a peripheral vein showed no change in venous pressure. In Case 1 the pulmonary systolic murmur was much less audible after the transfusion.

Discussion

The children with congenital hypoplastic anaemia were losing one week's schooling in six in order to be transfused. Under the method described above they could be in and out of hospital and return to school in 24–48 hours.

Anaesthesia

We considered preliminary anaesthesia essential because of the marked apprehension resulting from regular six-weekly transfusions. Anaesthesia also made venepuncture easier owing to the increased venous filling. The supine position, however, was not ideal, as there is evidence that the propped-up position lowers the right auricular pressure (Sharper-Schafer, 1945; Paul Wood, 1950). Ether is the anaesthetic agent of choice. Changes in the central venous pressure in adults are said to be negligible with thiopentone and nitrous-oxide–oxygen sequence (Fieldman *et al.*, 1955). A thiopentone induction, however, is impracticable in small, feeble children. Fletcher and Pender (1954), reporting on studies of venous pressure in adults, under ether anaesthesia, state that the venous pressure remained significantly raised during a three-hour period. This has not been our experience during ether anaesthesia in children. The impression that transfusions are particularly dangerous while the patient is anaesthetized does not seem justified. There is only the minimal danger of incompatibility (Wiener, 1943).

Total Blood Volume Changes

McMichael *et al.* (1943) found a reduced blood volume in chronically anaemic adults. Sharpey-Schafer (1944) confirmed this and found that right auricular pressure, cardiac output, and percentage utilization of available oxygen were increased. Patients with the highest venous pressure had the lowest haemoglobin and a reduced blood volume. One case, however, with the highest venous pressure and cardiac output and lowest haemoglobin, had a blood volume which was not as low as in some cases. Four days after transfusion, in this particular instance, the blood volume was lower still, although the patient had improved as judged by a falling venous pressure. In chronic anaemia the cardiac output is maintained by greater minute output secondary to an increased venous filling on the right side of the heart, and a tachycardia. Barcroft *et al.* (1944) thought the increased right auricular pressure must be at the expense of the

TABLE I.—*Results of Rapid Transfusion*

Case No.	Blood Volume Given (ml.)	Time Taken		Haemoglobin		Plasma Volume			P.C.V.		Total Blood Volume				Blood Vol. Increase (ml.)	Vol. Change Compared with Vol. Given (ml.)
		Min.	ml./Min.	Pre-transf. (%)	Post-transf. (%)	Zero Time (at 10 Min.) (ml.)	10 Min. Post-transf. (ml.)	Increase (%)	Pre-transf. (%)	Post-transf. (%)	Pre-transf. (ml.)	Post-transf. 10 Min. (ml.)	Rise (%)	Expected Rise (%)		
1	410	10	41	50	98	1,000	1,125	12·5	24	43	1,316	1,940	47·4	31	624	+224
	590	17	35	55	99	1,250	1,375	10·0	26	44	1,716	2,440	42·2	34·3	724	+134
	550	17	32	60	93	1,115	1,315	13·5	28	46	1,665	2,423	45·5	33	758	+208
	510	15	34	45	77											
	550	13	46	50	94											
	400	12	33	36	85											
	540	10	54	56	95											
	400	10	40	60	93											
	510	12	43	58	97											
2	500	13	36	44	92	1,780	2,010	12·9	20	35	2,136	2,871	34·4	23	735	+235
	490	13	35	54	92	1,260	1,352	7·8	21	35	1,592	2,174	36·5	30·8	582	+98
	480	16	30	50	88	1,206	1,214	0·7	20	36	1,507	1,959	30·0	31·2	452	−28
	510	14	36	45	79											
	540	12	45	50	82											
	500	14	36	42	89											
3	490	10	49	50	87											

capillary and venous systems. Their findings were based on observations on the pulse, skin circulation, and total peripheral resistance following acute haemorrhage. Altschule and Gilligan (1938) noted skin flushing and a bounding pulse after transfusions in adults, and Russell (1947) observed skin flushing and local heat without venous engorgement after giving blood to children at the rate of 5 ml. a minute.

Sharpey-Schafer and Wallace (1942b), however, had produced evidence to show that the peripheral and pulmonary capillaries and veins dilate to accommodate the increased blood volume. The reason for administering venous transfusion slowly to anaemic patients is to enable the slow adjustment of venous filling pressure to the extra volume given (Sharpey-Schafer, 1945). We believe that ether anaesthesia may lower venous vasomotor tone in children so that the venous side can not only accommodate the blood much more quickly but is probably adjusted to receive it before the transfusion is given. Furthermore Fieldman *et al.* (1955), in a study of 11 adult cases, found a decrease in blood volume on induction of anaesthesia—calculated from the Stewart (1921) formula. A further significant decrease in blood volume occurred on deepening the anaesthesia. There was no significant increase in blood volume on emergence from deep anaesthesia.

The decrease in blood volume in chronic anaemia is an active process by which available haemoglobin is concentrated. This increases the availability of oxygen (Sharpey-Schafer, 1944), allowing the minimum necessary minute-volume cardiac output. Our results showed that in the anaemic phase in children the blood volume was approximately average or actually increased compared with the heights and weights of normal control children (Russell, 1949) (see Table II). Russell's figures and those of Bakwin and Rivkin (1924), however, show a wide range of normality in healthy children.

TABLE II

Case No.	Weight	Height	Average Blood Vol. for Patient's Weight	Average Blood Vol. for Patient's Height	Lowest Blood Vol. Pre-transfusion
1	13·2 kg.	112 cm.	1,100 ml.	1,600 ml.	1,316 ml.
2	25 ,,	107 ,,	2,100 ,,	1,400 ,,	1,959 ,,

Russell (1949) thought that the blood volume related to height was more valuable than when related to weight, as when the volume is increased owing to congestive failure the weight would rise automatically. Russell (1947), using a concentrated corpuscle-haemoglobin method for determining blood volumes (Hill, 1941; McMichael *et al.*, 1943), found that blood transfusion to an anaemic child with an initial low blood volume for its height and weight resulted in an increased total circulating volume. In another anaemic child with a high initial blood volume, transfusion resulted in a shift of fluid to the tissues. In our Cases 1 and 2, where the initial blood volume was average or high, transfusion resulted in an increase in the total circulating volume. The percentage increase in volume (Table I) was higher than expected from the quantity of blood given (on all occasions except one in Case 2). A low blood volume does not occur in chronically anaemic children as it does in adults. If the haemoglobin is allowed to fall below 25%, the blood volume may then follow the adult pattern. It can be argued that if the blood volume is reduced before transfusion then an infusion will give a relatively big increase in circulating fluid; if, however, the blood volume is normal or high to begin with, the proportional increase in volume will be less and so the risk of overloading diminished.

Plasma Changes

Sharpey-Schafer and Wallace (1942a) have shown that when blood volume is at a normal level transfused *serum* leaves the circulation in from one to two hours. Where the initial blood volume is reduced the transfused serum is retained in the circulation. Marriott and Kekwick (1936) found that where whole blood is transfused in patients with chronic anaemia the added plasma may disappear even during the transfusion, and particularly if it is given slowly. Following our transfusions of packed cells the plasma volume was always increased ten minutes after the termination of the infusion. Russell (1947) suggests this increase in volume may be partly due to differences in the plasma protein levels of the blood of the donor and recipient. Metcalf (1944) found that, in dogs, if the blood of the donor has a higher protein content than that of the recipient, fluid is likely to be withdrawn from the tissues to equalize the osmotic pressure. Conversely, transfused blood of lower osmotic pressure would tend to cause a shift of fluid to the tissues.

Sharpey-Schafer and Wallace (1942a) showed that the rate of disappearance of injected serum depended upon the initial blood volume and not on its protein content. Boycott and Oakley (1934), using cats, and Hayward and Jordan (1942), using human subjects, showed that movement of plasma proteins probably occurs simultaneously with the fluid shift. There is no plasma protein change during haemodilution following acute haemorrhage (Wallace and Sharpey-Schafer, 1941). As we used packed cells the plasma protein content is probably not the main cause of the extra fluid shift from tissues to circulation. Furthermore, there is no substantial loss of injected red blood cells for the first two days after blood transfusions, any volume change being one of plasma (Boycott and Oakley, 1934). The extra plasma could not have come from the spleen in Cases 1 and 2 as they had been splenectomized. Splanchnic or hepatic blood (both cases had large livers) is a possible source. It is unlikely to come from the venous side because of the reduced vasomotor venous tone resulting from the ether anaesthesia.

Quantity and Rate of Transfusion

The signs of an overloaded circulation are an elevated jugular venous pressure (Lewis, 1937) and basal rales (Drummond, 1943). DeBakey (1938), in over 5,000 transfusions, never once observed the so-called phenomenon of speed shock (Hyman and Hirshfeld, 1931), and not infrequently 650 ml. was transfused in three minutes. In normal hearts Caughey (1935) found that 1,500 ml. of saline at 50 ml. a minute gives no venous pressure rise, but Altschule and Gilligan (1938) found that when more than 500–1,500 ml. of fluid is injected at greater than 26 ml. a minute the venous pressure, cardiac output, and blood volume increased. The faster the rate and the larger the quantity of fluid given, the higher was the venous pressure. Beattie and Collard (1942) found no changes of venous pressure by direct measurement in cases of diabetic coma and post-operative shock receiving similar large transfusions. Sharpey-Schafer and Wallace (1942b) found that 2,000 ml. of saline, serum, or blood can be given to normal hearts at 160 ml. a minute, but again with some rise in venous pressure. Previous reduction of blood volume by venesection prevented this rise. Marriott and Kekwick (1940) advised 1 ml. per 1 lb. (450 g.) body weight per hour to severely anaemic patients (haemoglobin less than 25%), uncomplicated by acute haemorrhage, and did not think it was safe to increase the rate if packed cells instead of whole blood were used. Sharpey-Schafer (1945) showed that 500 ml. at moderate rates (18 ml. a minute) may overload the anaemic heart.

We have found in three cases that 500 ml. could be safely given under general anaesthesia to children in approximately 10–15 minutes—that is, 35–50 ml. a minute. On one occasion this quantity was given direct into the internal jugular vein in ten minutes. This involves infusing two to four times faster than that thought likely to overload the chronically anaemic adult heart. We would not entertain such a rapid transfusion in proved pathologically abnormal hearts—for example, a case of pernicious anaemia—where rapid transfusions under any circumstances would be dangerous. Anginal symptoms may occur in severe anaemia even in normal hearts (Pickering and Wayne, 1934). Hunter (1946) found that, after correction of chronic anaemia,

cardiac pain and enlargement and electrocardiographic changes may persist and be almost identical to the signs of organic heart disease. Thus in chronic anaemia, even when the heart appears normal, ischaemic changes may already have occurred. This, however, seems unlikely to be the case in children.

Summary and Conclusions

A method is described of rapid intravenous transfusions to children. The procedure is regarded as safe in children with clinically normal hearts. It may be particularly indicated where regular transfusions are required during the child's life.

In children with chronic anaemia the blood volume does not fall as in adults. The relative volume increase after transfusion is thus small.

More blood can be given and at a faster rate owing to a reduced blood volume resulting directly from ether anaesthesia, and probably a release of venous vasomotor tone.

The young chronically anaemic heart can withstand fast transfusions better than adult hearts. In selected children transfusions can be given with safety two to four times faster than the rate causing a falling cardiac output in chronically anaemic adults.

The blood volume soon after transfusions is greater than can be accounted for by the volume of blood given ; the extra volume may come from the splanchnic or hepatic pools.

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GREAT AURICULAR NEUROTOMY FOR TIC DOULOUREUX

A CONTROLLED CLINICAL TRIAL

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Tic douloureux can at present be cured by any of several methods, all of which depend on interruption of those pain-conducting nerve fibres which pass from the ganglion of the trigeminus to the nucleus of its descending tract. All therefore cause some lifelong trigeminal sensory loss, which in most cases entails lifelong facial dysaesthesiae, and each has at least one of these further drawbacks: a more than negligible death rate, an insufficiently high success rate, and a risk of neuroparalytic keratitis or of lesions of other cranial nerves besides the fifth. For many years there has been a search for a cure—or even a means of prolonged relief—without such drawbacks, the two latest operations, which are both still unproved, being trigeminal "decompression" and compression.

Wyburn-Mason (1953) reported that he had treated about 56 patients suffering from tic douloureux by interruption of the great auricular nerve. Each of them first received an alcohol block of that nerve, and about half were completely relieved, "provided the tongue was not involved. . . . The treatment does not relieve the pain in the tongue." Regarding the periods of complete relief thus obtained, he wrote: "In cases treated by alcohol block alone the pain may return after 6 to 18 months." When the pain had returned, or if it had not been initially relieved, he treated it in some cases by a further alcohol block and in others by surgical section of the nerve.

Twenty-five of his patients received this surgical treatment, of whom two, at the time when he wrote, had had some return of pain, one two and a half years and the other three and a half years after nerve section. His follow-up was for as long as five years, which presumably means that five years was the maximum, but he did not state the minimum period.

Here, one might think, is the long-sought remedy without serious drawbacks, except for its failure to relieve pain in the tongue. Of the two ways of interrupting the great auricular nerve, Wyburn-Mason evidently prefers surgical section, and we agree with him, for with only a little more trouble than alcohol injection it produces a more certain interruption and a permanent one. Anything which it fails to do, injection likewise will fail to do. We have therefore subjected great auricular neurotomy to a controlled clinical trial on the lines recommended by Hill (1951).

Present Trial

Definitions.—Throughout the remainder of this paper neurotomy means great auricular neurotomy, and injection means alcohol injection of the trigeminal sensory root. Entry–injection interval means the interval between the date of a given patient's entry into the trial and the date of his injection.

Purpose of Trial.—The trial was primarily designed to answer the following question. Suppose that a patient with tic douloureux (1) after hearing the pros and cons of injec-

tion, decides for himself when to undergo it, and (2) agrees to try neurotomy while awaiting or considering injection. What difference will neurotomy make to the entry–injection interval?

Collection of Patients

Out-patients with "trigeminal neuralgia" were referred to one of us (J. P.) for injection, but only those who fulfilled five diagnostic criteria (Penman, 1950) were accepted as having tic douloureux. To each of them an explanation of injection and its results was given, with emphasis on three points: that permanent cure was probable, that it would mean permanent and uncomfortable numbness of the affected side of the face, and that there would be a small risk of temporary trouble with the eye on that side. Each patient was then asked: "At present, are you sure you want injection, or sure you don't want it, or not sure either way?" Not infrequently he tried to make the doctor, or the relative or friend whom he had with him, decide this question for him, but he was told that he must decide for himself, since no one else could judge how severe his pain was. His answer having been recorded, he was asked: "Suppose you were suitable for another, milder treatment, which is certainly harmless, but which is still unproved and may turn out to be useless; would you be interested in that?" If he answered yes, an explanation of neurotomy was given to him, but it was stressed that this treatment, being unproved, could not be given to everyone who wanted it. If he said that he would be willing to try it he thereby entered the clinical trial. Whether in fact he was to be neurotomized or not was determined randomly, by the method described below under the headings "classification" and "treatment groups," and he was immediately told the result of this random determination.

Fifty-one patients were thus collected, and eight more in the following different way. At the beginning of the trial there were eight patients who had previously been given the same explanation of injection, had said that they definitely wanted it, and were already waiting for it. To be brought into strict conformity with the other 51 they would have had to be interviewed again and specifically offered the opportunity of entering the trial; instead, their acceptance of it was assumed, and a date soon after the beginning of the trial was taken as the date of entry for all eight. When their treatment was randomly determined, five proved to be for neurotomy, were offered it in the same terms as the other 51, accepted it, and underwent it; the remaining three were not neurotomized.

To this second method of collection it can be objected that any of the three unneurotomized patients, if specifically offered entry into the trial, might perhaps have declined it. However, these eight cases gave results so similar to the rest that we think it justifiable to include them.

During the period of collection one patient was seen who had tic douloureux limited to the tongue, and was therefore excluded. Eighteen patients were included who had pain in the tongue as well as in other structures.

Classification

One of these 59 patients had bilateral tic douloureux which was almost equally severe on the two sides, and each side of his face was regarded as a separate case. In many places, therefore, we shall refer to our 60 cases instead of our 59 patients.

The cases were analysed at entry into the trial with regard to six features which might be held to influence the course of the disease (see Table I, part 1).

Severity of Pain at Time of Entry.—By their responses to the offer of injection the patients divided themselves into three classes, which finally contained the following numbers: class 1, certainly wanting injection (38 patients, 39 cases; class 2A, uncertain (18 patients); class 2B, certainly not wanting injection (3 patients). In randomly allocating treatment by neurotomy we preserved this division into three classes, but for all other purposes we have combined class 2B, since it was so small, with class 2A to make a single class 2.

Sex.—There were 34 women and 25 men.

Age on Date of Entry.—The patients were divided into those below the age of 60 years, who numbered 25, and those aged 60 years or over, who numbered 34.

Side of Face Needing Treatment.—Forty patients needed treatment on the right side, 18 on the left, and 1, already mentioned, on both.

Duration of Tic Douloureux at Time of Entry.—The cases were divided into those of less than four years' duration, which numbered 28, and those of four years' duration or more, which numbered 32.

Previous Attempts at Radical Treatment.—The cases were divided into those in which one or more attempts at injection, trigeminal sensory rhizotomy, or other forms of trigeminal surgery had already been made, which numbered 12, and those in which none had been made, which numbered 48.

In Table I, part 2, the features of patients in more severe pain (class 1) are compared with the features of those in less severe pain (class 2). Even with these small numbers it

TABLE I.—*Classification, Treatment Groups, and Results*

Features Possibly Influencing Results	Primary Groups	Part 1	Part 2		Part 3		Part 4				Part 5. Results							
			Distribution of Other Features in Classes 1 and 2		Treatment Groups		Classes 1 and 2 Subdivided into Treatment Groups				Class 1				Class 2			
							Class 1		Class 2		Neurotomized		Unneurotomized		Neurotomized		Unneurotomized	
		All Cases	Class 1	Class 2	Neurotomized	Unneurotomized	Neurotomized	Unneurotomized	Neurotomized	Unneurotomized	Injected	Not Injected	Injected	Not Injected	Injected	Not Injected	Injected	Not Injected
Severity of pain (see text)	Class 1 ..	39			23	16												
	„ 2A ..	18			11	7												
	„ 2B ..	3			1	2												
Sex ..	Female ..	34	20	14	19	15	11	9	8	6	10	1	9	0	4	4	2	4
	Male	26	19	7	16	10	12	7	4	3	12	0	5	2	3	1	1	2
Age at entry	60 or more ..	35	23	12	20	15	13	10	7	5	13	0	9	1	4	3	2	3
	Under 60 ..	25	16	9	15	10	10	6	5	4	9	1	5	1	3	2	1	3
Side of face	Right	41	27	14	23	18	16	11	7	7	15	1	10	1	6	1	2	5
	Left	19	12	7	12	7	7	5	5	2	7	0	4	1	1	4	1	1
Duration of illness	4 years or more	32	19	13	18	14	10	9	8	5	10	0	8	1	6	2	1	4
	Under 4 years	28	20	8	17	11	13	7	4	4	12	1	6	1	1	3	2	2
Previous radical treatment	Not attempted	48	31	17	25	23	17	14	8	9	16	1	12	2	4	4	3	6
	Attempted ..	12	8	4	10	2	6	2	4	0	6	0	2	0	3	1	0	0
	Total ..	60	39	21	35	25	23	16	12	9	22	1	14	2	7	5	3	6

is worth noting that of the patients who were sure that they wanted injection, practically one-half were men, but of those who were uncertain or against injection only one-third were men. Also the shorter histories of tic douloureux were associated with a *greater* tendency to want injection. (The men did not tend to have shorter histories than the women.) In other respects the two classes did not differ.

Treatment Groups

Classification of the cases in relation to all the six features listed in Table I leads to 96 subgroups. Though some of these subgroups were bound to remain empty, 96 lists were prepared, each with spaces for ten names. Opposite each space, before the trial began, was written either A, signifying treatment, or C for control, the order of A's and C's on each list being determined by random sampling numbers. As soon as each case had been classified, the patient's name was written in the first vacant space on the appropriate list, and the presence of A or C opposite it determined whether neurotomy should be carried out or not. The resulting distribution of cases is shown in Table I, part 3. The aim of this method of determination of treatment was to obtain neurotomized and unneurotomized groups that were equivalent in their main features, and it was achieved except as regards previous treatment (and as regards the very small class 2B). Even for classes 1 and 2 separately there was a reasonable equivalence between the neurotomized and unneurotomized groups (see Table I, part 4). In order simultaneously to achieve equal numbers of neurotomized and unneurotomized cases, a larger total than 60 would have been needed.

The patient needing bilateral treatment proved to have his right side among the neurotomized cases and his left among the unneurotomized.

Of the 18 patients with pain in the tongue as well as in other structures, 12 were neurotomized and 6 unneurotomized.

Neurotomy

As soon as it had been determined that a given patient was to be neurotomized, his name was put on a list, and the neurotomies were carried out in the order in which the names had been listed. The names of all patients in class 1 and of some in class 2 had on the day of entry into the trial been put also on a second waiting-list, for admission to hospital and injection. Whenever this second list was short—and it was seldom long—there was a danger that a patient's injection might have to be delayed in order to find time for his neurotomy. To reduce this danger, most neurotomies were carried out within five days of entry, some one day after it, and a few on the day of entry; but, even so, there were some cases in which injection was thus delayed for a short while. Such delays could only weight the results slightly in favour of neurotomy.

Just before each neurotomy we applied pressure, as recommended by Wyburn-Mason, to the great auricular nerve of the affected side through the intact skin. A few patients, all of whom had been having paroxysms of tic douloureux just before this pressure, had them also just after it, but none was relieved of pain by it.

All 35 neurotomies were carried out by one of us (L. S. W.) and nearly all were witnessed throughout by the other. Only local analgesia was used, and Wyburn-Mason's directions were strictly followed. The great auricular nerve was identified where it crossed the posterior border of the sternomastoid muscle, freed from neighbouring structures, and traced as far centrally as possible. In 31 cases the most central portion of the nerve that could be reached was squeezed and tugged with a forceps; 4 of these 31 patients felt nothing, doubtless because of the preliminary infiltration of the operative field with local analgesic; 25 felt painful or other sensations in the ear; two felt them only in the neck; but none felt any sensation in the trigeminal area. (In the remaining four cases of neurotomy we inadvertently did not record whether this stimulation of the nerve was carried out or not.)

A length of at least 1 cm. of the nerve was excised and sent for microscopy, which in each of the 35 cases confirmed that it was a portion of a peripheral nerve. A few patients felt the same sensations during the cutting of the nerve as they had felt during the squeezing and tugging of it, and in the same areas. One patient, when re-examined just before injection, had no sensory loss on the ear; presumably the great auricular nerve was either exceptionally small and had a correspondingly small territory, or else proximally to the site of operation it had already divided into two or more branches, of which only one was found and cut. In all other cases there was permanent analgesia or anaesthesia in the lobe of the ear and in immediately adjacent areas, but in none was there any sensory loss within the trigeminal area.

Thus the great auricular nerve was stimulated in 31 cases and completely cut in either 34 or 35 cases, but no support was found for Wyburn-Mason's view that it must partly innervate the trigeminal area.

Follow-up

Patients whose names were on the waiting-list for injection were told that if by the time they were sent for they no longer wanted it they would be welcome to postpone it. Those whose names were not on the waiting-list were told that whenever they wanted injection they might send word, and their names would at once go on the list. Both these instructions were given whether neurotomy had been carried out or not, but in addition the neurotomized patients were told that if they really wanted injection they should not postpone it because of the neurotomy. However, the inclination to wait a little longer and give the neurotomy "time to work" must have been strong in some cases, and it is doubtful whether our instruction entirely counteracted it. One patient to our knowledge was persuaded by his general practitioner to postpone injection for that reason, and others may have been similarly persuaded. This is a second inevitable factor which tended to weight results somewhat in favour of neurotomy, especially in class 2.

Injections were carried out in the order of the waiting-list. So far as was possible, all uninjected patients were followed up every two calendar months from the date of entry, on the first two occasions by interview and thenceforth by letter. On five occasions we had to be content with a letter instead of an interview, and on three with a telephone message instead of either. Twice we lost touch with patients temporarily, but none defaulted entirely, and a few had extra interviews at their own request. The first entry was on August 16, 1954, the last on May 4, 1955, and the follow-up was closed on August 16, 1955.

Results

One criterion of failure or success with the 35 neurotomies is the subsequent need or absence of need for injection, as compared with the same need or absence of it in the 25 unneurotomized cases. In injected cases another criterion is the entry–injection interval, and in uninjected cases the period for which each patient was followed up without needing injection.

Injection had to be carried out in 36 of 39 cases, or 92.3%, in class 1, but in only 10 of 21 cases, or 47.6%, in class 2, and all results must therefore be considered separately for these two classes.

In class 1 there were 23 neurotomized cases, 22 of which had to be injected, and 16 unneurotomized cases, 14 of which had to be injected. In class 2 there were 12 neurotomized patients, seven of whom had to be injected, and nine unneurotomized patients, three of whom had to be injected. For details see Table I, part 5. The maximum, average, and minimum entry–injection intervals are given in Table II, which shows that in class 1 the average intervals for neurotomized and unneurotomized cases differed by less than one day. In class 2 the average entry–injection interval was 75 days longer for the neurotomized than for

TABLE II.—*Injected Cases: Number of Days Elapsing Between Entry into Trial and Injection*

		Class 1		Class 2	
		Neurotomized	Unneurotomized	Neurotomized	Unneurotomized
No. of cases		22	14	7	3
Entry–injection interval (days)	Maximum	85	148	204	25
	Average	21·4	22·1	93	18
	Minimum	4	0	12	16

the unneurotomized, but here the total of 21 patients, injected and uninjected, was too small for this comparison to be very significant.

Uninjected cases numbered 14. In class 1 they represent one "success" out of a possible 23 for neurotomy and two "successes" out of a possible 16 for doing nothing; in class 2, five "successes" out of a possible 12 for neurotomy and six out of a possible nine for doing nothing. The follow-up periods, for what little they are worth with so few cases, can be compared in Table III; the three

TABLE III.—*Uninjected Cases: Length of Follow-up*

		Class 1		Class 2	
		Neurotomized	Unneurotomized	Neurotomized	Unneurotomized
No. of cases		1	2	5	6
Length of follow-up (days)	Individuals	250	321 322	—	—
	Maximum	—	—	314	271
	Average	—	—	256	184
	Minimum	—	—	189	125

patients in class 1 all happened to enter the trial before any of the 11 in class 2, which is the only reason why they were followed up longer.

The patient needing bilateral treatment said when first interviewed, and again on the day of his right-sided neurotomy, that the left side needed treatment rather more than the right, so that it was for left-sided injection, as we thought, that he was admitted to hospital. He then said, however, that the right-sided pain had become worse than the left, and asked for a right-sided injection, which was given. About three and a half months later he began to have a bout of severe left-sided pain, which continued for two to three weeks and then abated. During that bout he asked for left-sided injection, but changed his mind before it could be given. Thereafter until his latest follow-up, 322 days after entry, his left-sided pain was not severe enough to make him want injection.

In all of those 12 cases in which the pain had both affected the tongue and been treated by neurotomy, it continued not only in the tongue but also in other structures, and in 10 out of the 12 cases injection was carried out.

A few neurotomized patients found the numbness in and round the ear unpleasant, especially when lying in bed with the affected area in contact with a pillow. The 29 neurotomized patients who required injection nearly all said in effect that neurotomy had been worth trying, but had made no difference whatever to their pain.

Comment

Controls apart, it would be hard to praise any treatment for tic douloureux which in 22 out of 23 severe cases left the patient in need of injection within 85 days.

The search for a cure without trigeminal sensory loss must continue, but each proposed new remedy ought, in the very first cases in which it is used, to be subjected to a controlled clinical trial. This precaution is especially necessary in any disease which is so chronic and remittent as tic douloureux. The two features of the present inquiry which we have found most valuable are (1) preliminary classification of the severity of each case by the patient himself, through his response to a standard offer of radical treatment, and (2) assessment of the efficacy of the method under trial by the patient himself, through his decision when to undergo radical treatment. By these means, and with an adequate supply of patients, reliable results can be obtained within 12 months.

Summary

Between August, 1954, and May, 1955, 23 severe cases of tic douloureux, strictly diagnosed, were treated by great auricular neurotomy, and 16 other severe cases, comparable in all essentials with the first 23, were left untreated. In each of these 39 severe cases the patient when first interviewed had his name put on a waiting-list for trigeminal injection, which he was left free to postpone if his pain had abated enough. In 22 of the 23 neurotomized cases (95.7%) trigeminal injection had to be carried out at most 85 days later, and in 14 of the 16 unneurotomized (87.5%) it had to be carried out at most 148 days later. The average interval between entry into this clinical trial and injection was 21.4 days in the 22 neurotomized and 22.1 days in the 14 unneurotomized cases. One severe neurotomized case and one equally severe unneurotomized case, instructively, were on the right and left sides of a single patient. Twenty-one other patients with milder tic douloureux were similarly divided into 12 neurotomized and 9 unneurotomized and left to decide when they must undergo trigeminal injection, with similar results. Great auricular neurotomy, to judge from this trial, has no effect on tic douloureux.

We thank Mr. Wylie McKissock for encouraging us to do this work in his department, Professor A. Bradford Hill for valuable guidance and criticism, Professor T. Crawford and Dr. N. F. C. Gowing for microscopy of the excised portions of nerves, Miss Audrey Gear for her skill and patience in organizing the case records and the follow-up, and members of the almoners' department of the Royal South Hampshire Hospital for their prompt efficiency in tracing a psychiatrically ill patient who would otherwise have defaulted.

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HAEMOGLOBIN C DISEASE AND TRAIT

REPORT OF A FAMILY IN ENGLAND WITH HAEMOGLOBIN C

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Abnormal, genetically determined haemoglobins are being recognized with increasing frequency as the cause of certain anaemias, generally of the haemolytic type. Their discovery has followed the application of electrophoretic techniques to the study of sickle-cell haemoglobin (S) by Pauling, Itano, Singer, and Wells (1949). The other human haemoglobins so far described are A (adult), C, D, E, F (foetal), G, H, I, and J; and the list is doubtless incomplete. The hereditary haemoglobinopathies occur almost exclusively in people of non-European descent, and principally in negroes.

Haemoglobin C was described by Itano and Neel (1950). Their cases were North American negroes, and the haemoglobin C was in the heterozygous state, with A or S. Homozygous haemoglobin C (haemoglobin C disease) was reported, again in North American negroes,

by Spaet, Alway, and Ward (1953). Haemoglobin C was first reported from outside the U.S.A. by Edington and Lehmann (1954), who found a high incidence in negroes from the Gold Coast; and by Portier, Cabannes, Massonat, and Duval (1954) in negroes from Algiers. Huisman, van der Schaaf, and van der Sar (1955) reported haemoglobin C disease from Curaçao, in an apparently white family of German-Dutch origin (but with possible negroid ancestry) and also in negroes. In general, haemoglobin C is found in West Africans, and in places where it may have been introduced by them. Diggs, Kraus, Morrison, and Rudnicki (1954) have, however, described its occurrence in a white family, of Italian origin, in the U.S.A.

Homozygous haemoglobin C generally causes a mild anaemia, of the haemolytic type. Heterozygous haemoglobin C, if paired with A (haemoglobin C trait), is usually symptomless.

Case Report

Mrs. P., a West Indian negress, 2-para, aged 39, arrived from Jamaica, with her family, in July, 1955. Apart from one attack of malaria, in 1936, and high blood pressure during her first pregnancy (1949), she had always been healthy.

On October 28, 1955, she attended an antenatal clinic, being then 15 weeks pregnant. On routine blood testing she was found to have a haemoglobin of 10.5 g. per 100 ml. (71%); R.B.C., 3,470,000; P.C.V., 30%; M.C.V., 88 cubic microns; M.C.H.C., 35%; W.B.C., normal. The film showed large numbers of target cells.

At her next visit, on November 25, her haemoglobin had dropped to 8.7 g. per 100 ml., and there was some hypochromia. She was admitted to hospital for investigation.

On examination, pregnancy was normal for 20 weeks. The liver and spleen were enlarged to four and two finger-breadths below the costal margin, respectively. There was no complaint of joint pains, and no other physical abnormality. Urine: Albumin +; deposit: a few red blood cells and hyaline and granular casts. Culture: no growth; urobilin and urobilinogen not demonstrated. The serum bilirubin was 0.6 mg. per 100 ml.; alkaline phosphatase, 6 K.-A. units; thymol turbidity, 2 units; zinc sulphate turbidity, 14 units; total serum protein, 5.8 g. per 100 ml.

On December 7 her haemoglobin was 8.4 g. per 100 ml.; R.B.C., 3,100,000; P.C.V., 27%; M.C.V., 87 cubic microns; M.C.H.C., 31.1%; reticulocytes, 2.2%; W.B.C. normal in number, type, and distribution; platelets normal. The red cells showed anisocytosis, with some hypochromia and polychromasia. Target cells, 56%; "boat" cells present (Fig. 1). The red-cell fragility was greatly reduced, commencing at 0.40% saline and incomplete at 0.10% (control 0.50% to 0.35%). (See Fig. 2.) Coombs's tests were negative. Tests for sickling were negative. Electrophoresis showed haemoglobin C only (Fig. 3). The sternal marrow was active, erythropoiesis being partially megaloblastic (occasional megaloblasts to 37% normoblasts). Granulopoiesis was normal apart from a maturation arrest at the myelocyte-metamyelocyte stage. M : E ratio 1.3:1. Platelet formation was normal.

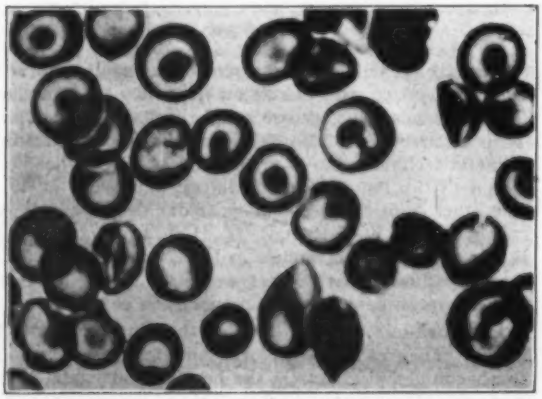

FIG. 1.—Blood film of Mrs. P., showing the high proportion of target and boat cells. (×900.)

Iron and folic acid therapy was started, and the haemoglobin level rapidly improved to 10.8 g. per 100 ml., which was maintained.

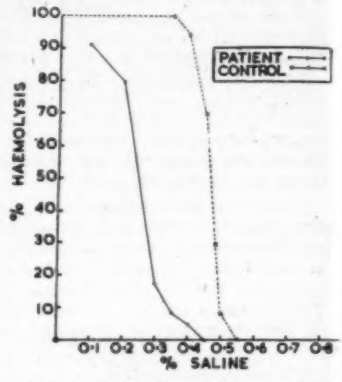

FIG. 2.—Red-cell fragility curve of Mrs. P., showing the characteristic decrease in osmotic fragility.

At 36 weeks the patient was admitted to another hospital for toxaemia, and a macerated foetus was delivered at 38 weeks, no blood specimen being submitted for examination.

On July 6, 1956, the haemoglobin level was 14.7 g. per 100 ml., and she felt well. Target cells were approximately 50%.

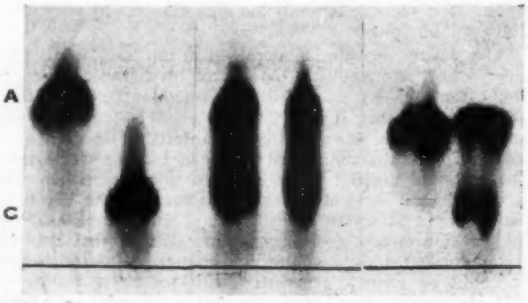

FIG. 3.—Electrophoretic patterns of the P. family, and of Mrs. P.'s half-brothers. The continuous line indicates the starting-point.

Investigation of the Family

Haemoglobin C Trait.—In addition to the P. family, consisting of Mrs. P., Mr. P., and two children (a boy, R.P., aged 7½, and a girl Y.P., aged 6), two of Mrs. P.'s half-brothers now live in this country. Three other half-brothers and a half-sister live in Jamaica. Mrs. P.'s father is alive and well, in Jamaica. Her mother died during Mrs. P.'s infancy. None of her family has ever complained of ill-health.

Haematology.—Mr. P.: Haemoglobin, 13.6 g. per 100 ml.; no target cells; electrophoresis showed haemoglobin A only. The P. children: On February 20, 1956, R.P.'s haemoglobin was 10.2 g. per 100 ml., target cells 2%; Y.P.'s haemoglobin 11.5 g. per 100 ml.; target cells 2.4%. On July 6, after treatment: haemoglobin—R.P. 12.3 g., and Y.P. 13.4 g. per 100 ml. Electrophoresis: Both children showed a mixture of A and C. Mrs. P.'s half-brothers: Blood samples were kindly obtained for me by Dr. J. N. Marshall Chalmers. On electrophoresis one brother (N.K.) showed a mixture of haemoglobins A and C; the other (D.K.) showed A only (Fig. 3).

Electrophoresis.—This was carried out at *p*H 8.6, on filter-paper, by the method of Smith and Conley (1953). Our

findings were kindly confirmed by Dr. H. Lehmann, of St. Bartholomew's Hospital, who also demonstrated 1.9% of foetal haemoglobin (F) in Mrs. P.'s blood. Haemoglobin C moves characteristically slowly at *p*H 8.6 (the slowest of all the haemoglobins so far described). It is readily denatured by alkali.

Discussion

Since Mrs. P. is homozygous (CC), both of her parents, who were pure-blooded negroes, must have had Hb C. The brothers K. have the same father but a different mother, and, since D.K. has Hb A only, the father must have heterozygous C (AC). Fig. 4 summarizes the genetic data available.

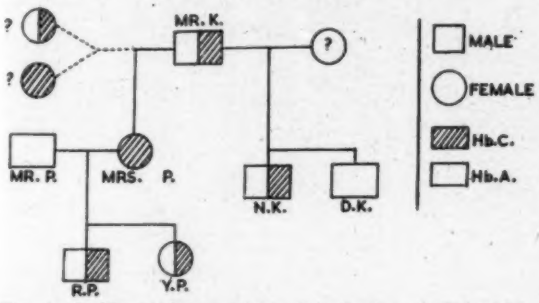

FIG. 4.—Incidence of haemoglobin C in the P. and K. families.

The characteristic haematological findings in haemoglobin C disease are: (1) marked reduction in the osmotic fragility of the erythrocytes; (2) numerous target cells, with boat cells (folded erythrocytes), in the blood film, owing to the abnormal thinness of the cells; (3) demonstration of haemoglobin C only, on electrophoresis. If the disease is in an active phase the features of a haemolytic anaemia are generally present in addition (anaemia, reticulocytosis, increase in serum bilirubin and faecal urobilin, etc.). All cases so far described have had enlarged spleens, and most have complained of joint pains.

The haematological findings in the case of Mrs. P. were complicated by her pregnancy. Although she was grossly anaemic her reticulocyte count was only 2.2%, and her serum bilirubin was normal. Marrow examination revealed a megaloblastic element. As she gives no history of previous ill-health attributable to anaemia the disease may not itself give rise to clinically detectable anaemia in her case. There must be many such persons, with virtually symptomless haemoglobin C disease, if estimates of the frequency of homozygous haemoglobin C are at all accurate. Terry, Motulsky, and Rath (1954) have suggested a frequency of 1 in 6,000 for CC, while Smith and Conley (1953) estimated the incidence of the C trait as 1 to 3%, in North American negroes. It would appear likely, therefore, that with the rapid increase of our negro population other cases of haemoglobin C disease must already be present in this country, and that we must be on the look-out for haemoglobinopathies in non-European patients with anaemia.

Summary and Conclusion

A Jamaican negress immigrant, found to be severely anaemic at routine antenatal investigation, proved to be a case of haemoglobin C disease (CC). Her husband has normal adult haemoglobin (A) only, and her two children have a mixture of A and C. Two of her half-brothers (co-paternal) have been investigated. One has heterozygous C (AC) and one A only.

The abnormal haemoglobins were demonstrated by electrophoresis on filter-paper at *p*H 8.6.

The characteristic diminished osmotic fragility of the erythrocytes and numerous target cells were well shown in this case.

An incidence of 1 in 6,000 has been suggested for haemoglobin C disease in North American negroes. This and other hereditary haemoglobinopathies should be considered when investigating non-European patients with anaemia.

I wish to thank Dr. H. Lehmann for his help and for confirming the results of electrophoresis; Dr. J. N. Marshall Chalmers for the blood specimens of the brothers K; Dr. J. D. Procter, the clinician in charge of the patient; and Mr. C. E. Vernon for the electrophoretic determinations. The first report of these cases, apart from the K. brothers, was made at a meeting of the Association of Clinical Pathologists in April, 1956.

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CARDIAC INFARCTION IN MALAYA

BY

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In the changing pattern of medicine in the tropics to-day the degenerative diseases, as elsewhere in the world, are found to be of growing importance. Before the second world war very little was written about cardiac infarction in South-East Asia, mainly because of the urgent need to study the important epidemic diseases, but also because cardiac infarction was still a young subject and because there were few electrocardiographs, without which investigations are unlikely to be carried out. Even to-day there is some difficulty in maintaining an electrocardiograph in good working order in a tropical climate, and servicing is not always possible.

In China an analysis of the incidence of disease in hospitals was given by Gear (1936), but heart disease was not common and degenerative heart disease not separately mentioned. In Canton Karcher (1936), whose patients were mainly female, analysed those who had heart disease. Only 2.1% were classified as having arteriosclerotic heart disease, but 17.7% had hypertensive disease. Snapper (1941) when working in China rarely encountered myocardial infarction. Tung (1948) saw nine patients with it at the Peiping Union Medical College Hospital in 1938–41 and nine patients in private practice in 1945–8. His opinion was that among Chinese, although hypertensive cardiovascular disease was prevalent, coronary thrombosis and angina pectoris were uncommon. Of his 18 patients, 15 were of the upper social and economic class.

In the Malaysian regions reports are also rare. Kouwenaar (1937) described a case, including a necropsy report, in a Javanese. Van Wesel (1939), in writing on cardiac infarction, reported five cases of coronary artery disease, but these were all in Europeans or Indo-Europeans. Soetano Tjokronegoro (1940) reported six

cases of aneurysm of the heart, of which four were in natives. Zuidema (1941) stated that cases are seen in Europeans, Indo-Europeans, and Chinese, but rarely in natives of Java, although hypertension and arteriosclerosis are common. He reported the cases of two Javanese, one of whom was a doctor. An extensive review of heart disease in Thailand was made by Bisal (1938). He analysed 530 cases admitted to Siraraj Hospital in Bangkok, of which 4.5% were described as arteriosclerotic in type. Although this group was further broken down the diagnosis of cardiac infarction was not mentioned.

Sengupta (1940) collected the cases seen at the Medical College Hospital, Calcutta, from 1931 to 1936. The total in this period was only 21, which was 2.1% of all cardiac cases. From correspondence I have had with Indian physicians I find the condition is not regarded as rare to-day, and Vakil (1949) has published a series of cases. In Ceylon the disease also seems fairly common now, Jayewardene and Jayasekere (1954) having collected 270 cases from the General Hospital, Colombo, during 1952 and 1953.

Scope of Investigation

This investigation covers the four years 1952-5. During this time all patients attending the Penang General Hospital who were found to have suffered from cardiac infarction were studied. Those with an old infarction diagnosed for the first time as well as those seen during an attack are included. The hospital is the main medical centre in the Settlement of Penang and Province Wellesley, which is situated in the north of the Malay Peninsula. Accommodation is graded into first, second, and third class. For third-class accommodation a small charge may be made, but most of the patients are treated free. The general medical beds of the hospital are divided into two medical units, each of which has 60 third-class beds and further beds in the better-class wards as required. Nearly all the cases were in-patients, but a few out-patients were seen in consultation. The diagnosis of cardiac infarction was based on definite changes in the QRS complex of the electrocardiogram, and a series of tracings was taken from each patient when that was possible. The customary twelve leads, occasionally more, were usually recorded at each examination. Post-mortem examinations are rarely permitted, and in only 4 of the 18 deaths was necropsy performed, and in these the diagnosis was confirmed.

In the four years 89 cases of cardiac infarction were diagnosed, an average of only 22 a year. During the same period a yearly average of 562 E.C.G s were taken. The population of the Settlement from which these patients were drawn was 527,770 (estimation for 1954) and the average yearly admissions to the hospital were 9,396. The figure of 89 cases in four years is probably a little less than it should be, as fewer cases were diagnosed in the earlier part of the investigation. This may be attributed to shortage of staff and difficulties with the electrocardiograph, resulting in rather fewer recordings being taken.

Distribution by Sex, Age, Social Class, and Race

Of the 89 patients only 13 were women. Although this low figure for women may be partly due to the fact that fewer women than men are admitted to hospital, this explanation is quite inadequate, and the difference can be attributed to the different sex incidence for the disease. The ages of the men, by decades, are given in Table I.

TABLE I.—*Age Incidence of 76 Male Patients*

Age	No. of Cases	Age	No. of Cases
20-29 years	2	50-59 years	30
30-39 ,, ...	7	60-69 ,, ...	13
40-49 ,, ...	20	70+ ,, ...	4

The average age of the men was 52 and of the women 57. The youngest patient was an Indian Moslem aged 25 who worked as a boatman, and the oldest an Indian cowherd who gave his age as 81. The average age of the men by nationality was: Chinese, 55 years; Indians, 51; Malays, 50; and Europeans and Eurasians, 52. Thirty-two of the patients were admitted to first-class wards, nine to second-class wards, and 48 to third-class wards. The total admissions by class are not recorded in the hospital, but it is estimated that there are at least four times as many third-class admissions as first and second in the medical units.

The great diversity of races in Malaya gives an opportunity of comparing the incidence of cardiac infarction among them. Table II shows the estimated population of each race for 1954. As these races do not make comparable use of the hospital facilities the average yearly admissions by race are also given. The significance of the figures in Table II are discussed below. It should be pointed out that nearly all the Chinese originally came from South China, those from the Fukien Province being the commonest. Some of the Chinese patients were born in Malaya and most of the others have spent many years there. The Indians are mostly from South India, and include both Hindus and Moslems. Although the habits of these two religious groups differ it is not possible with such small numbers to make any sub-division. Like the Chinese, most have spent many years in Malaya.

TABLE II

Race	Population of Penang and Province Wellesley (1954)	Average Yearly Admission	No. of Cases in 4 Years	Yearly Rate per 10,000 Admissions
Chinese	291,252	4,971	24	12
Indians	70,845	2,723	44	40
Malays	157,873	1,141	8	17·5
Europeans and Eurasians ..	5,226	454	11	60·5
Others	2,574	107	2	
Total ..	527,770	9,396	89	

Symptoms

A comparatively large number of patients in whom sound electrocardiographic evidence of infarction was found were unable to give a history of any definite episode to indicate the attack (Table III). Of those included under "typical episode," two collapsed suddenly and died within three days, and one became unconscious but recovered. A fourth collapsed a week after childbirth, and the E.C.G. demonstrated infarction. Soon after this she suffered from hemiplegia. Practically all these patients had electrocardiographic tracings which indicated a recent infarction. A few gave a history of chest pain some time before coming to hospital. On the other hand, among the 24 without a history of an acute episode most of the tracings suggested old infarctions. This group usually presented with symptoms of cardiac failure, but one presented with a hemiplegia, one with cirrhosis of the liver and heart failure, and one with a vague history of weakness and oedema.

TABLE III

Class	Typical Episode	No Episode
First ..	30	2
Second ..	9	0
Third ..	26	22
Total ..	65	24

Two factors that are related to atheroma and so to cardiac infarction are diabetes and hypertension. Both these conditions are common in Malaya, but I do not know of any

significant figures regarding their incidence. Of the 89 patients with cardiac infarction, 11 were noted to have glycosuria, and consisted of six Indians, four Chinese, and one Eurasian. It is not so easy to assess the incidence of hypertension in the series, as many cases were on the borderline. If the diagnosis is based on the blood-pressure readings and E.C.G. tracings taken after an attack, there were only 15 with clear evidence of hypertension. This number is probably too small, and little weight can be attached to it.

Cases Outside the Hospital Practice

During the inquiry into cardiac infarction it became evident that the total number of patients with the disease was small and that the incidence seemed particularly low among the Chinese. It was therefore decided to seek further information on the subject from the 54 private practitioners of the Settlement. A simple questionary was sent to each asking for the number and nationality of patients with cardiac infarction that they had seen in the previous twelve months, excluding all who had been referred to the hospital. Answers were obtained from 44. Twenty-six had no cases, but the other 18 had seen 48—38 Chinese, 7 Indians, 2 Malays, and 1 other.

A further source of information was in the coroner's cases investigated by the Government pathologist. The only figures available were for a period of two years. In this time there were 16 cases—6 in Chinese, 4 in Indians, 5 in Malays, and 1 in Europeans.

When these figures are added to the hospital figures of Table II a more complete picture can be obtained (Table IV).

TABLE IV

	Population	No. of Cases per Year	No. of Cases per 100,000 of Population per Year
Chinese	291,252	47	16
Indians	70,845	20	28
Malays	157,873	6·5	4
Europeans and Eurasians	5,226	2·75	55

Discussion

The number of patients found suffering from cardiac infarction is not large or complete enough to allow of any dogmatic statements about the incidence of the disease among the peoples of Malaya. Other factors influence the value of some of the figures, and these are mentioned below. It is, however, interesting to note that the same trends for age, sex, and social status appear in Malaya as elsewhere. The distribution of hospital patients according to class shows that those of higher social classes are more often sufferers. There were nearly as many patients in the first- and second-class wards as in the third-class wards, in spite of the great difference in numbers admitted to these respective wards. About a third of those admitted to the third-class wards were engaged in the less strenuous or better-fed occupations such as coffee-shop keepers, clerks, etc. It should be added, however, that in some cases age or early heart failure may have driven them from manual work. More patients were treated by private doctors than were admitted to hospital, and this fact supports the opinion that the rich are more likely than the poor to be affected.

Is the disease less common in Malaya than in the United Kingdom? In comparing figures for these two countries a correction must be made for age because cardiac infarction is a disease of older people. In the last Malayan Census Report (1947) the number of the population aged 40 years and over is given as 219 per 1,000. This is only a little over one-half of the corresponding figure for England and Wales as given in the report of the Ministry of Health for 1953. My estimate for the Settlement of Penang and Province Wellesley is 78 cases in a population of 527,770. If an increase is allowed for the age distribution one has an incidence of about 30 per 100,000 to compare with any United Kingdom figures. Unfortunately it is not easy to find in the literature suitable statistics for comparison. However, through the courtesy of Dr. G. M. Fyfe, who is studying coronary sclerosis in a Scottish county, I can make use of some of his observations. In a total population of 219,502 there were 429 cases in one year. This incidence is six to seven times greater than that which I have found in Malaya. Dr. Fyfe's figures were, however, obtained by a special scheme of notification by the medical practitioners of the area and should be more accurate and more complete than mine. They also include angina pectoris in the 429 cases. The difference, therefore, is probably less than the figures indicate.

The comparison of hospital figures is most difficult. The Penang General Hospital admits patients suffering from pulmonary tuberculosis, infectious diseases, and tropical diseases as well as those with general medical and surgical complaints. In two small hospitals in Scotland the average yearly admission for coronary sclerosis (mostly cardiac infarction) was 110 out of a total admission of 1,840. The Penang figures were 22 out of a total admission of 9,396. This difference is very great, but probably can be taken as little more than evidence of the different use that is made of the hospitals in these countries.

A further point of interest is the racial incidence. The impression gained in hospital work was that it was commoner among the Indians than among the Chinese. Further considerations modify this opinion and demonstrate how many fallacies there may be in attempting to analyse statistics in such a country as Malaya. For example, tuberculosis was one of the common causes for admission to hospital, the figures by nationality being available. In 1954 there were 491 Chinese admissions to 98 Indian. Whatever the cause of this difference it means that for other diseases the Chinese were even more reluctant to use the hospital than the figures in Table II indicate. Furthermore, the age incidence in hospital for these two races also differs, there being comparatively fewer Chinese in the middle group of 30–49 years. Out of 500 Chinese admissions, 196 were over 39 years of age and 124 over 49. The corresponding figures for Indians were 203 and 93. The number of patients reported by the general practitioners was dependent upon memory and cannot be accepted as more than approximately accurate. As nearly all the doctors work in the municipal area of Penang, and as the percentage of Chinese in this area is higher than in the Settlement as a whole, the figures have limited value in demonstrating incidence. The figures shown in Table IV, based on total population, indicate that the incidence among the Indians is nearly twice as high as among the Chinese, but this apparent higher susceptibility of the Indian must remain only a suspicion, as the evidence collected here is not good enough to offer statistical support.

In proportion to their numbers the Malays use the hospital less than the other races. It is certain, too, that they make little use of the services of the general practitioners. The figures available can be accepted only as evidence that infarction does occur in this race. The majority of Malays living a traditional country life as farmers or fishermen have little representation in the figures give in this paper.

One would like to give particulars of the diets and the people concerned. Some figures are available for the poorer section of the community, and these indicate that the intake of fat is low; but among the middle and upper classes the intake is probably quite high. Financially Malaya is more prosperous than most other Asian countries and the diet therefore correspondingly richer. So far as racial incidence is concerned it is of no value, however, to add inadequate diet figures to my own inconclusive incidence figures.

Lastly, it is of interest to consider the difference in symptoms as shown by the large number of patients who did not give a history of an acute episode. Parkinson and Bedford as long ago as 1928 described the type with dyspnoea and

heart failure without pain. In two recent papers (Papp, 1952; Roseman, 1954) on painless cardiac infarction the incidence is given as 4.6% (7 out of 150) and 4.5% (10 out of 220). In the present series it was 27% (24 out of 89), and this painless infarction was much commoner in the patients in the third-class wards; while Hunter (1946), in the U.S.A., found painless infarction commoner in the poor negro than in the poor white patient. The cause for this high proportion of painless infarctions must be conjectural. Perhaps some patients had forgotten the pain. To the educated man of to-day a pain in the chest is alarming, but to one who has never heard of coronary thrombosis and in whose life there have been many pains and hardships it may, unless very severe, be passed over as of little importance. One of the patients included here as a typical case came to hospital complaining of dyspnoea and swelling of the feet. It was only when the history was fully taken that it was learnt that he had had a pain in the chest two weeks earlier. It may be, too, that the pain in the poorer man is actually less severe; that just as the disease is less common, each attack may also be on the average less acute. Possibly the explanation is a combination of both suggestions. Whatever the reason may be, it is evident that the painless cardiac infarction is one of the causes of the not infrequent cases of heart failure of obscure aetiology found in the poor Asian patient.

Summary

The literature on cardiac infarction in South-East Asia is reviewed.

A series of cases in a Malayan hospital is described and further figures of patients seen by private practitioners are also given.

The difficulties in comparing the incidence either between Malaya and the United Kingdom or among the races of Malaya are discussed.

The figures that are given show that the disease is not a rarity in Malaya, but suggest that it may be less common than in the United Kingdom.

Among the different races of Malaya the figures available for Malays are too few for comparison. There is a suspicion that the incidence is higher among the Indians than among the Chinese.

In the symptomatology a high incidence of painless infarction is noted.

I wish to thank Dr. H. A. Reid, who has allowed me to include all his cases and has given other help; all the doctors of the Settlement who so kindly replied to my questionary; Dr. J. T. Boyd, of the London School of Hygiene and Tropical Medicine, for advice on statistics; Dr. G. M. Fyfe for figures of incidence in the U.K.; Dr. H. I. Williams for necropsy figures; and the following for answering other inquiries: Drs. F. R. Dieuaide, H. S. Gear, C. Gopalan, E. W. Graham, C. K. Menon, R. Subramaniam, and I. Simpson. I am indebted to Dr. R. E. Anderson, Director of Medical Services, Federation of Malaya, for permission to publish.

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Medical Memoranda

Toxic Psychosis Caused by "Preludin"

"Preludin," a new drug for controlling the appetite, is, I believe, gaining popularity among those who for a number of different reasons try to slim. It was discovered in 1953 and first marketed in Germany in 1954. It has been on sale in this country for about twelve months. Below is reported the case of a young woman who took preludin in large doses for its central stimulant effect, and as a result developed a toxic psychosis. This was at first thought to be a schizophrenic illness. I have not seen this danger reported before.

CASE REPORT

The patient, aged 29, was an assistant matron at an infants' boarding school run by her mother. She suddenly began to complain that the floor was magnetized and her jewellery electrified. In an attempt to insulate herself she had cut up her hot-water bottle. Her family looked after her at home until her admission to hospital three days later. On admission she was dishevelled, tense, depressed, and emotional, but otherwise there were no abnormal findings. Formal psychometric testing showed no confusion, no clouding of consciousness, and no disorder of perception. She was co-operative and expressed remorse for all the trouble she had caused. Chlorpromazine was given, and within a few days she calmed down.

On her third day in hospital her father telephoned to say that he had found amongst her belongings at home a large number of empty preludin tablet containers. He estimated that she must have taken at least 1,400 tablets during the previous 12 weeks. He said that three months previously he had discovered she was taking dexamphetamine sulphate ("dexedrine") tablets, and had asked the near-by chemist shops to stop supplying her with this drug. The patient, when asked about the preludin, admitted that her father was quite right. She had taken preludin tablets in order to forget everything and to be able to go off and enjoy herself with her friends. She had needed about a dozen preludin tablets to get the same effect as a few dexamphetamine tablets gave her.

A review of her behaviour over the three months before she had startled her family with her complaints that the floor was magnetized and her jewellery electrified revealed that she had been very irritable and suspicious. Her fiancé had commented that she seemed to "babble" at times. It had been noticed that she had seemed restless at night and unduly fearful of burglars. In fact, she had gone to the trouble of putting talcum powder on her window-sill so that fingerprints of any intruder would be readily available, and had placed small articles against the inside of her bedroom door in order to have warning if it was being opened.

Her previous personality was that of an unstable erratic girl who from childhood had been unreliable. Her personal history showed that thread of instability, lack of conscience, and disregard for others in her behaviour so characteristic of a psychopathic personality.

COMMENT

Preludin is claimed to produce early satiety of the appetite without disturbing side-effects. Any central effect is said to be only that of a very mild elation. Its chemical formula shows that it is an oxazine derivation of ephedrine, which is more closely related to caffeine than amphetamine. However, it is known that a toxic psychosis may occur when excessive quantities of either of these drugs are taken.

The toxicity of preludin has been studied in mice by Thomä and Wick (1954), who found that, compared with amphetamines, the lethal dose of preludin by the oral route is nearly five times as great. They also found that to produce the same degree of excitement in unanaesthetized dogs the amount of preludin needed was six times that of

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(1955) *Lancet*, i, 181

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amphetamine. These last findings were confirmed in the human by my patient. As stated above, she needed many more preludin tablets to obtain the same stimulant effect as a few of dexamphetamine gave her.

Preludin has been used in the treatment of psychiatric conditions. Spiegelberg (1954) has reported favourably on its use for "psychiatric conditions, psychopathic reactions, and endogenous depressive states." There are also reports on preludin in the treatment of obesity by Berneike (1954) and Rostalski (1954) from Germany and by Gelvin, McGavack, and Kenigsberg (1956) from the U.S.A. In none of these series of cases are toxic manifestations reported.

Amphetamines were placed on the Schedule I list of poisonous drugs a few months ago. The occurrence of a toxic psychosis as a result of taking excessive doses of preludin—which is without some of the protective unpleasant side-effects of amphetamine—shows that the latest "slimming drug" is not without hazard and should also be placed on the Schedule I list.

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Haemorrhage from Primary Carcinoma of the Liver Complicating Pregnancy

Primary carcinoma of the liver is a rare neoplasm. Of even greater rarity is sudden haemorrhage from such a growth complicating a pregnancy.

CASE REPORT

A Chinese woman aged 43, in the 30th week of her 13th pregnancy, was admitted to the Kandang Kerbau Hospital, Singapore, on June 23, 1956, complaining of abdominal pain, dyspnoea, and general malaise. Nothing abnormal was known of her previous medical and obstetrical history.

On examination her general condition was poor and she looked anaemic. There was some oedema of the feet and ankles. The heart sounds were normal and the blood pressure 140/80 mm. Hg. Several spider angiomata were present over the shoulders. On abdominal examination the size of the uterus corresponded to the period of amenorrhoea. A single foetus was presenting by the head, and the foetal heart was heard. No definite diagnosis was made.

Two days later her dyspnoea increased and engorgement of the neck veins was noted. The liver was thought to be palpable to a distance of two fingerbreadths below the costal margin. Some crepitations could be heard at the lung bases. Her temperature was 102.2° F. (39° C.). A provisional diagnosis of incipient cardiac failure was made and appropriate treatment instituted, including systemic penicillin.

The next day jaundice developed. Her haemoglobin was 42% (Sahli) and the total white-cell count 10,200 per c.mm. The urine contained albumin. Urobilin and urobilinogen were present. The icteric index was 40 and she had a direct triphasic van den Bergh reaction. A physician thought the condition was basically a lung infection with a superimposed infective hepatitis and mild cardiac failure due to beriberi.

For the next four days her condition remained much the same. To counteract her anaemia a transfusion of packed red blood cells was given, and by July 6 she seemed rather better, although the jaundice had remained constant. A week later she became quite drowsy and complained of pain in the right hypochondrium. Her temperature was still raised. The liver was still palpable below the costal margin and tender. The possibility of amoebic hepatitis was considered. *X*-ray examination of her chest confirmed an upward enlargement of the liver as judged by an elevation of the right dome of the diaphragm.

On July 20 she developed severe upper abdominal pain, and a very tender mass was palpable in the right hypochondrium. The blood pressure fell and her pulse rate started to rise. The clinical picture suggested an "acute abdomen," and it was decided to perform a laparotomy. On opening the abdomen free blood and clots were found. The uterus looked normal. To facilitate the search for the source of the haemorrhage a classical caesarean section was performed and a live female infant, weighing 3 lb. 12 oz. (1,800 g.), was delivered. The bleeding was found to be coming from the liver. This organ was much enlarged and cirrhotic, and its capsular surface was covered with large clots of blood. It was obvious that nothing surgical could be done for the condition. A small portion of liver was removed for histological examination and the abdomen closed. The patient's condition was now grave and she died 14 hours later. Permission for a post-mortem examination was refused.

The pathologist's report on the biopsy specimen was: "The normal architecture of the liver columns is lost in many areas and the cells are many layers deep, with much mitotic activity. Areas of haemorrhage are also seen. Diagnosis: hepatoma."

COMMENT

All investigators are agreed on the comparative rarity of primary carcinoma of the liver. In a review of 76,776 necropsies performed in the United States of America, Blatchford (1952) found only 183 cases. Tull (1932) found 134 cases in a total of 17,664 necropsies performed in Singapore—an incidence of 0.76%. The disease appears to be less common in races living under the conditions of Western civilization and to be more common among tropical and Eastern peoples—for example, the Bantus of Africa, the Japanese, the inhabitants of South China, the Philippine Islands, and the Malay States (Webb, 1945).

It has long been recognized that primary carcinoma of the liver arises, almost invariably, in livers which are already cirrhotic. Muir (1908) pointed out that it is particularly prone to develop in that type of hepatic fibrosis characterized by conspicuous nodular hyperplasia. The racial and geographical incidence of the condition does suggest that primary carcinoma of the liver and "tropical cirrhosis" are associated, and the latter is now generally believed to result from a diet deficient in protein. There is good reason to suspect that this patient's diet, in common with that of many others in this part of the world, was deficient in protein, although containing enough carbohydrate to prevent marked wasting. In searching for aetiological factors attempts have been made to implicate infestations with intestinal parasites such as *Entamoeba histolytica*, *Schistosoma*, and *Clonorchis sinensis* as precursors of primary carcinoma of the liver, but no convincing evidence is available (Trevathan, 1954).

Haemorrhage from rupture of the liver in pregnancy has been reported in the literature in a number of cases, but the complication has usually been the result of the hepatic lesions of eclampsia. Rupture of the normal liver from direct trauma, unless of severe degree, is said to be unlikely. In the abnormal liver even minor trauma might precipitate a break in a capsule weakened by disease (Schnabel, 1935). Therefore, in any case of known disease of the liver, rupture of the organ should be thought of in the presence of a picture simulating a sudden acute surgical condition in the abdomen.

I thank Professor B. H. Sheares for permission to publish this case report.

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Reviews

ROYAL NAVAL WAR MEDICINE

Medical History of the Second World War: Royal Naval Medical Services. Volume II—Operations. Edited by Surgeon Captain J. L. S. Coulter, D.S.C., R.N. (Pp. 543+xvii; illustrated. 57s. 6d.) London: H.M. Stationery Office. 1956.

"History," as Lord Acton said, "is better written from letters than from histories." And here the editor has followed that dictum, selecting from the wealth of detailed reports available among official records not only those which called for comment or prominence because of their special naval medical significance but also those which, in proper sequence and with due emphasis, gave rise to a balanced and just account of the work of the Royal Naval Medical Services in the second world war. Essentially it is the record of the doctor's work at sea in wartime, for that was the lot of most naval doctors, and this is portrayed by reproducing his own account of his experiences. Thus a graphic and accurate picture of the stress and hazards of the naval warfare of the time, and of the medical lessons to be learnt from them, is set forth quite simply in the log of a doctor in a cruiser guarding a Russian convoy. The medical consequences of submarine attack, of aerial bombardment, of bitter cold weather, and of the strain of prolonged action are thereby illustrated.

The war in the Mediterranean and in the Far East is treated similarly, and one may select some items of outstanding interest. These include accounts of specialized medical units ashore; of the fate of prisoners in Japanese hands as viewed by the medical officers who shared their captivity; and, perhaps most important of all, the account of what happened to a group of 48 men shipwrecked on a tropical island. Without a doctor and without an elementary knowledge of hygiene, these men suffered from much preventable disease, from apathy and loss of morale, and 20 of them died in a period of 14 weeks. How vitally important is the instruction of all naval personnel in the simple rules of preventive medicine! A wonderful story, too, is that of the Royal Naval Hospital at Hong Kong, which was overrun when that colony was captured by the Japanese. It is a record of quiet fortitude, unremitting work, and brilliant improvisation under appalling conditions. And from defeat the story changes to the medical preparations for the landings on the Normandy coast, and so it goes on as the war ran its course.

This is the most readable official history I have encountered, and it is as far removed from historiography as could be imagined. It is to be recommended not only to those concerned with the Royal Navy and with medicine but also to everyone interested in a stirring chapter in our country's history.

W. D. W. BROOKS.

ANALYSIS OF PERCEPTION

Analysis of Perception. By J. R. Smythies, M.A., M.D., M.Sc., D.P.M. Preface by Sir Russell Brain, Bt., D.M., LL.D., D.C.L., F.R.C.P. (Pp. 170+xiii. 21s.) London: Routledge and Kegan Paul. 1956.

This is a rather short book dealing with a very complex topic. The author points out that the study of perception has been carried out by specialists in many different fields, such as philosophy, neural physiology, neurology, and experimental psychology. He adds, with some show of justification, that there has been little liaison between these various endeavours. He is concerned about the fact that most neurologists and neural biologists with philosophical interests adhere to a representational theory of perception which is rejected by most contemporary philosophers. In this book he has attempted to make the representational theory more acceptable to professional philosophers, and he illustrates his account with experimental data from mescaline intoxication work and from experiments with the stroboscope.

The book will probably be of interest to philosophers rather than to scientists, who may occasionally wonder precisely what Smythies is trying to prove. His style is excessively abrupt and curtailed, making his presentation very uneven and difficult to follow. Whole chapters, such as Chapter 6, are included without any obvious reason, and might have been left out without altering the argument. On the other hand, certain important definitions are presented without sufficient discussion to make it very easy for the reader to see the rationale for the writer's choice, nor does he give a detailed discussion of the relevant psychological evidence. Thus take, for instance, his definition of "sense-datum": "If the boundary J of the after-sensation (hereafter y) can be observed to describe a Jordan curve in the total field composed of x and y such that it divides this total field into one *inside* and one *outside*, then x is a sense-datum." The writer nowhere makes clear why he chooses this definition rather than another; he never explains what a Jordan curve is (how many neurologists will be familiar with the *Cours d'Analyse* ?); and he never touches on the difficulties raised for his definition by such phenomena as "Bidwell's ghost." Altogether an interesting but excessively undisciplined book, which may with advantage be read by the expert philosopher but will give little to the experimentalist.

H. J. EYSENCK.

THE RECOVERY ROOM

The Recovery Room—Immediate Postoperative Management. By Max S. Sadove, M.D., and James H. Cross, M.D. Contributions by 24 authorities. (Pp. 597+xxi; illustrated. 84s.) London: W. B. Saunders Company Ltd. 1956.

Writing the first chapter in this book, an administrator suggests that the intensive therapy unit, which is the natural progeny of the post-operative recovery room, is capable of three things: it improves nursing care, utilizes equipment and personnel more effectively, and assures the patient and his family that everything humanly possible is being done. The writer maintains, too, that such a service results in the lowest morbidity and mortality rates at lowest cost to the patient and hospital. Nothing in the way of figures is adduced in the text to substantiate this claim.

The joint editors have organized several recovery rooms; the large amount of information they have so gathered has, they humorously say in the preface, prevailed over their better judgment and impelled them to present it in this volume. In this enterprise they have been assisted by 24 authors representing some dozen specialties; nearly all are associated with the University of Illinois, Chicago. The management of patients in a recovery room is considered in detail. The control of pain and infection, of shock and nutrition, are first dealt with. There follow chapters dealing specifically with the post-operative management of patients in all specialties. Indeed, the book provides a manual of post-operative care. There is an additional chapter on the treatment of medical emergencies. The contributions are of variable quality and there is of necessity much repetition. Views differ on which patients should go to the recovery room. Some hold that every patien: after even small procedures should be so treated; others that the service should be used only for complicated cases. Among the instructions given, the recommendations for the use of intravenous therapy and of antibiotics will seem to many over-elaborate; some drugs are difficult for British readers to identify from the trade names freely used.

There is a need for careful study of the principle presented by this book, in which much useful material has been assembled.

C. J. LONGLAND.

Brompton Hospital Reports, Vol. XXIII, 1954, contains 20 papers selected from among those published during the year by members of the staffs of the Hospitals for Diseases of the Chest and of the Institute of Diseases of the Chest. It also includes an index to all the previous volumes, and can be obtained from the hospital, price 15s.

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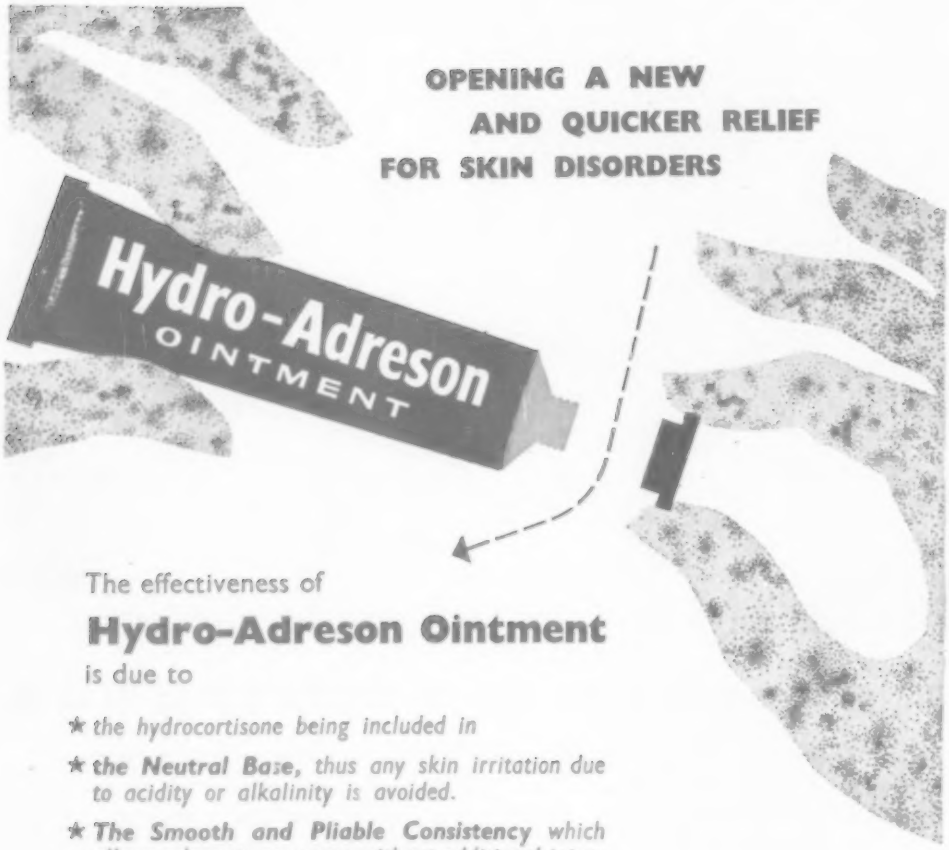

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BRITISH MEDICAL JOURNAL

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SATURDAY JANUARY 5 1957

PREPARATION FOR ACTION

The Negotiating Committee, under the joint chairmanship of Sir Russell Brain and Dr. A. B. Davies (acting for Dr. A. Talbot Rogers), is meeting the Minister of Health and the Secretary of State for Scotland on Friday of this week. This is nearly a year after the B.M.A. informed the Minister that the profession intended to make a claim for more pay in view of the increase in the cost of living since March, 1951. Since February last year the two sides have exchanged several letters, the Ministers have met the profession's negotiators on one occasion only, and the profession has backed up its insistence that the Government has a moral obligation to continue acting on the Spens recommendations by sending the Ministers a carefully argued legal statement of the case. But the Ministers have refused to acknowledge that the translation of the Spens recommendations into the changing post-war value of money was to be a continuing operation. In fact they have followed the example of a succession of Ministers who since 1948 have tried to ignore what is implicit in the reports of two interdepartmental committees, the recommendations of which were accepted by both Government and profession, and which persuaded a reluctant body of medical men and women to take part in the National Health Service in 1948. Doctors are united in considering that the Government, by its apparent repudiation of the Spens reports, has broken faith with the profession. The employees have lost all trust and confidence in their monopoly employer. One sign of the present discontent with the Government's attitude and the conditions of the N.H.S. is the fact that in recent months the number of doctors inquiring at B.M.A. House about possibilities of practice in the Dominions and elsewhere has increased from an average of three a week to about five a day.

This *Journal* went to press in advance of the meeting with the Ministers this Friday. In view of their attitude during the past year we shall be surprised if they do anything more than find another formula for saying "No!" Our negotiators have shown exemplary patience and great persistence, but, unless the omens are brighter this Friday than anticipated, it may soon be time to admit that negotiations have failed to make any impression on the Ministers. The Negotiating Committee's powers are, of course, limited to negotiation on an increase in pay in terms of the Spens recommendations. If the Ministers bring these negotiations to a halt, then the organized profession as a whole will have to decide what its policy should be and what action it should advise. At the moment the important thing is to take the machinery for action out of moth balls. The recent meeting of the Council of the B.M.A. was followed by a meeting of the Trustees of the British Medical Guild, the membership of the latter being almost identical with that of the former. Both the Council and the Guild Trustees considered preparation for action to be urgent, and the Secretary of the Guild, Dr. A. Macrae, has invited doctors in different parts of the country to set up local committees of the Guild with membership representing all branches of the profession. It is proposed, too, that these local committees, when formed, should appoint local conveners or group organizers. The area covered by a Guild committee corresponds with the area of a local division of the B.M.A.

The Guild was established in 1949 to do those things which by its constitution the B.M.A. is prohibited from doing. The B.M.A. cannot undertake what would be held to be trade-union activities. The Guild can. The Guild cannot determine policy. The B.M.A. can and does. The Guild is an instrument for action, for carrying out legally policies decided by others. If, for example, the Representative Body of the Association decided to advise withdrawal from the National Health Service it would be the Guild which would organize and finance such action and compensate any member suffering serious financial hardship as a consequence. The money for this comes from the Trust Funds of the three main branches of the profession. It should be stressed that the activating of the Guild machinery is a precautionary measure—an obvious measure to neglect which would expose those responsible to justifiable criticism. If the profession is forced by the Government's failure to honour its word to consider withdrawing from the National Health Service—eventually, as some have suggested, to work in a new and better form of service—then the mechanism must be geared for action and well lubricated. This is what is being done now, no more and no less. No decision to act has been taken. When the Council of the B.M.A. meets at the end of January it will then know the outcome of this week's meeting with the Minister and the views of the Negotiating Committee on it. The profession may well be on the eve of a severe

conflict with the State, its present employer. That this has become possible is in itself an indictment of the N.H.S. To find the right answer to this and many other defects of the Service will call for an "agonizing reappraisal," and none are in a better position to do this than those who work in the Service. To find the right answers will require ripe wisdom, far-sighted statesmanship, and a determination to stick to principles in the face of possible sources of disagreement. In a conflict the Minister of Health, who by the nature of his office is first and foremost a politician, will undoubtedly take advantage of any division of opinion within the profession, a profession whose strong sense of individualism makes this at times seem easy. But a profession really united on the things that matter will win the day, however long the struggle.

ABNORMAL HAEMOGLOBINS

It has been known for more than 90 years that the haemoglobin of newborn infants differs from that of adults.[1 2] Körber reported in his inaugural lecture at Dorpat University that placental haemoglobin differs from that of the adult in being resistant to denaturation by alkaline reagents. At birth more than half of the haemoglobin is of the "alkali resistant" type; from then on the concentration falls steadily, and usually none can be found after 4–6 months. The production of foetal haemoglobin is under a different genetical control from that of adult haemoglobin; it does not cause a disease, but its presence after the age of 6 months indicates that there is some interference with the production of normal adult haemoglobin. The inherited haemoglobinopathies cause anaemia within a few months of birth, and in cases of sickle-cell anaemia[3] and thalassaemia[3] foetal haemoglobin is almost invariably found. It is present in some children with spherocytic anaemia, leukaemia, or even malnutritional anaemia of early onset.[3 4 5] The haem is the same in both haemoglobins, but the globin moiety is different. Until recently no other human haemoglobins were known. Then in 1948 H. Hörlein and G. Weber[6] described a family with hereditary methaemoglobinaemia in which the behaviour of the globin was abnormal. On separating the globin from the haem and on reuniting them with those from normal persons it was seen that the patients' globin was incapable of forming a haemoglobin with the iron in the reduced form. In 1949 L. Pauling and his colleagues made the fundamental discovery that sickle-cell anaemia is caused by an abnormal haemoglobin.[7]

In 1910 J. B. Herrick[8] noted that some negroes suffered from an anaemia which was associated with "peculiar elongated and sickle-shaped red corpuscles." It was then found that some healthy negroes had red cells which were normal *in vivo* but which became sickle cells on incubation *in vitro*.[9 10] The sickling phenomenon was found to be familial and to be inherited as a single Mendelian dominant.[11 12] At first it was assumed that the same gene produced in some persons an asymptomatic condition, the sickling trait, and in others a severe disorder, sickle-cell anaemia. J. V. Neel first suggested in 1947[13] that there might be an alternative hypothesis, according to which the first was the heterozygous and the second the homozygous condition. In 1949 he presented convincing evidence,[14] and simultaneously and independently the same hypothesis was advanced by E. A. Beet.[15] Pauling's discovery of the sickle-cell haemoglobin fully supported the genetical theory. Carriers of the sickle-cell trait possess both the normal and the new abnormal haemoglobin, but in patients with sickle-cell anaemia only sickle-cell haemoglobin and no normal adult haemoglobin was found. The method by which sickle-cell haemoglobin was discovered was electrophoresis. In this technique proteins are dissolved in a buffer solution and an electric current is passed. The charge of the protein and therefore the speed at which it will migrate towards the anode or the cathode will depend on the difference between the *p*H of the buffer and the *p*H at which the protein is iso-electric. Normal haemoglobin is iso-electric at *p*H 6.9 and sickle-cell haemoglobin at *p*H 7.1; hence on electrophoresis in

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an alkaline buffer normal haemoglobin migrates towards the anode faster than sickle-cell haemoglobin. The application of electrophoresis to haemoglobin has led to the discovery of seven, possibly eight or even nine, further haemoglobin variants. Fortunately at an early stage rules for their nomenclature were adopted. Normal *a*dult haemoglobin is named haemoglobin A; *s*ickle-cell haemoglobin, which was at first called B or b, is haemoglobin S; and *f*oetal haemoglobin is designated by the letter F. All other haemoglobins are assigned letters of the alphabet in order of their discovery beginning with the letter C (since B or b had at one time been used for the sickle-cell haemoglobin) unless as in the case of the first three haemoglobins there is a letter with a special mnemonic association. Haemoglobins C, D, E, G, H, I, J, and possibly K and M (for the *m*ethaemoglobin of Hörlein and Weber) have been recognized. Apart from S and D they all differ in their electrophoretic properties. S and D cannot be told apart by electrophoresis, but the first causes sickling and the second does not. Not all these variants have been examined with equal thoroughness; some have been seen in only one or two families. It seems that they all are inherited as simple Mendelian characters, though H may not be present in the phenotype of the AH genotype unless formation of haemoglobin A is partly suppressed by additional thalassaemia.[16] The haem is the same in all the haemoglobins; only for M has a specific difference been claimed in the visible spectrum, and only F has a specific spectrum in the ultraviolet region; no differences have been found in either the visible or invisible spectra. Haemoglobin S differs from all the others by its low solubility in the reduced form,[17] but otherwise only very minor chemical and physical differences have been described. V. M. Ingram[18] has recently compared the polypeptide chains—some thirty in number—which make up the haemoglobin A and S molecules. One chain from haemoglobin S differed in its electrophoretic and chromatographic properties from its counterpart in haemoglobin A. The difference between the two molecules seems to lie therefore not in the folding of the polypeptide chains but in the amino-acid sequence in one part of one of these chains. This is of genetical interest, because the formation of S must be due to the mutation of a single gene, and we may visualize gene action as directly affecting this aspect of haemoglobin synthesis.

Red cells which do not contain any haemoglobin A seem to be thinner than normal cells, with the exception of those of the one homozygote for G described so far.[19] All the other homozygotes for abnormal haemoglobins suffer from a haemolytic anaemia. Target cells are prominent in the blood smear, and Dr. H. M. Rice describes in this issue of the *Journal* (p. 25) a patient in whom this phenomenon led him to an examination for abnormal haemoglobin. The anaemia may be compensated in some instances. H. Lehmann and his colleagues[20] described recently two Burmese who were presumed to be homozygous for haemoglobin E. Though the mean corpuscular haemoglobin was greatly reduced, a compensating polycythaemia had restored the haemoglobin level to nearly normal. Dr. Rice's patient turned out to be homozygous for haemoglobin C, but once her anaemia of pregnancy was successfully treated her haemoglobin level rose to 14.7 g. per 100 ml., yet the proportion of target cells remained unaltered. Heterozygotes are usually quite unaffected, unless the single gene for haemoglobin A cannot find its full expression because of the presence of an additional thalassaemia gene. In thalassaemia no abnormal haemoglobin is found, but formation of haemoglobin A is suppressed. A severe haemoglobinopathy results in the thalassaemia homozygote—thalassaemia major—but even the heterozygote may present with anaemia of varying degree—thalassaemia minor.

Patients with haemoglobin S suffer pathological changes due to intravascular sickling in addition to the haemolytic anaemia. The crises and other thrombotic and infarctive events are restricted to the sickling homozygote or to sickling heterozygotes in whom the proportion of haemoglobin S is high; this is frequently the case in heterozygotes for S and C (sickle-cell–haemoglobin-C disease) and in AS heterozygotes with an additional thalassaemia trait (microdrepanocytic disease). Heterozygotes for S and D also suffer from a modified sickle-cell anaemia with sickle-cell crises. Cases have recently been reported of splenic infarcts even in simple AS heterozygotes who were exposed to anoxia as it occurs in high flying,[21] and both sickle-cell homozygotes and heterozygotes are often unable to produce a concentrated urine,[22] presumably because of intravascular sickling in the kidneys.

The geographical distribution of the abnormal haemoglobins suggests that mutations for a new haemoglobin gene must be rare. Haemoglobin C, the subject of Dr. Rice's paper, is found at high frequency in West Africa, and it has been found wherever West Africans have been brought. It is therefore seen in American negroes, in North Africa, and in South Africa, but not in East Africa.[23–25] Haemoglobin S is found both in East and in West Africa and wherever African slaves have been brought

in the past. In Asia haemoglobin S is also found in some of the older populations of Arabia and India.[28] This has led to the suggestion that haemoglobin S arose in the Middle East in prehistoric times and that it found its way from there into Africa and India. Haemoglobin D is present in low frequency in India,[30 31] and haemoglobin E is found further east in Siam,[29] Burma,[29] Malaya,[29] and Indonesia,[30] as well as in Ceylon, Bengal, and Cambodia. The influx of West Indians into Britain, as well as the presence of visitors of many races, makes it necessary to look for abnormal haemoglobins in likely patients with an obscure anaemia. Numerous target cells in the blood smear are in Britain usually associated with cirrhosis of the liver; as Dr. Rice's article shows, they may also be the first indication of a haemoglobinopathy.

SMEGMA AS CARCINOGEN

From time to time the suspicion has been canvassed that human smegma is carcinogenic. A preliminary report has recently appeared on a series of well-controlled experiments designed to throw light on this problem.[1] Human smegma was collected in sterile saline and centrifuged; the deposit was ground into a paste and stored in the refrigerator. This material was applied directly by specially devised instruments to the upper vagina and cervix of female mice of different ages and belonging to a special strain. In one group of mice one dose only of smegma was used; this was retained permanently by suturing the vaginal orifice. Two other groups received weekly and bi-weekly injections respectively. In yet other groups some of these procedures were supplemented by injection of oestrogen. In parallel experiments, the contents of human dermoid ovarian cysts, which closely resemble smegma in physical and chemical constitution, were used instead of smegma. Two groups of mice received bi-weekly vaginal injections of methylcholanthrene, a known carcinogen. Out of twelve mice receiving bi-weekly injections of smegma for an average period of 19½ months, four had frank invasive carcinomas, one had early carcinoma with borderline invasion, and two had changes identical with intra-epithelial carcinoma. The remaining six showed epithelial hyperplasia. A similar change but without definite invasion was produced in eleven of twenty-six mice receiving weekly injections for an average period of 15½ months. A single injection of smegma with vaginal ligature also gave a few positive results, including one carcinoma, one possibly malignant papilloma, and two sarcomas. Oestrogen appeared to inhibit the action of smegma. A comparable number of positive results was obtained with the contents of ovarian dermoid cysts and by methylcholanthrene. The gross and microscopical features of the lesions produced are comparable to those found in the human cervix. These experiments show that human smegma has a carcinogenic effect on the squamous epithelium of the vagina and cervix of the mouse. The possibility that it may be a factor in causing cancer of the penis and of the cervix uteri in the human subject must therefore be seriously considered. It has been suggested that certain bacteria—for example, *Mycobacterium smegmatis*—may act upon cholesterol (a lipoid found in smegma) and convert smegma into a carcinogen. Experiments along these lines are not yet completed. I. Hieger and S. F. D. Orr[2] have reported the occurrence of sarcomata in mice following injection of commercial and purified cholesterol, after a long latent period.

The effect of circumcision on the subsequent development of carcinoma of the penis is well known. F. Homburger and W. H. Fishman[3] give the incidence as follows: In Jews, in whom circumcision is performed during the first eight days of life, 0%; in Mohammedans, in whom circumcision in practised between the ages of 3 and 14 years, 1.5 to 2.1%; in the Chinese, non-circumcised, 15% of all cancers. In contrast, the rate in Europeans is considered to be less than 5%. E. L. Kennaway,[4] after an extensive inquiry, reached similar conclusions, and stated that the difference in susceptibility between the Jews and Moslems was due to the fact that "the train of events leading to the malignant growth is set going early in life, and that removal of the cause does not then avert the development of cancer at a much later date." He does not consider that the protection given by the Jewish operation is due to the removal of the cancer-bearing area but that "the influence of phimosis in predisposing to cancer of the penis suggests that the carcinogenic agent is formed in material between the prepuce and glans." Homburger and Fishman suggest that a long period of contact between the penis and the carcinogen contained in the smegma of the penis is necessary to foster the susceptibility of the penile tissue to undergo cancerous transformation at a later date. It has also been suggested that circumcision may be an important factor in the prevention of carcinoma of the cervix uteri. The rarity of this condition among Jewish women has been noted by several authors, and F. Gagnon,[5] and later J. E. Towne,[6] have described a low incidence in nuns. W. Sampson Handley[7] found that in the Fijian Islanders cervical carcinoma was eight times commoner among a group of Indian immigrants not practising circumcision than among the natives who do. On the other hand, recent statistics collected by J. M. Montpellier[8] in Algiers showed that cancer of the cervix is not rarer in

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the Jewish and Mohammedan women than in the European, and figures quoted from Constantine showed a similar trend.

In a recent review of the aetiology of cervical carcinoma W. L. Williams and C. C. Erickson[9] discuss three possible causative factors—inflammation, pregnancy, and hormones. Cervicitis is prevalent among women and is often associated with cervical laceration and erosions following childbirth. The long-continued irritation in consequence of the inflammation may increase the susceptibility to the development of cancer. The importance of pregnancy is indicated by the fact that carcinoma of the cervix is much more frequent in women who have borne children than in nulliparae. Some authorities hold that oestrogen may play a part in the production of carcinoma of the uterus in humans, not only of the body but also of the cervix, but further work is required on the subject. W. U. Gardner and his associates,[10 11] however, have reported the appearance of metastasizing cancer of the cervix in mice following injections of oestrogens. These considerations suggest that a carcinogenic action of human smegma in relation to carcinoma of the cervix uteri would appear to be less direct and more remote than in the case of carcinoma of the penis.

OCCUPATIONAL MORTALITY IN SCOTLAND

No regular relation between social class and general death rates is to be seen in the figures for Scotland covering the years 1949–53. The latest Annual Report of the Registrar-General for Scotland,[1] which includes a section on occupational mortality based on the 1951 census population, shows that the comparative mortality for adults aged 20–64 for social classes 1 to 5 was 107.9, 86.2, 102.5, 90.3, and 112.6 respectively (in comparison with 100 for the whole of this population). Within the social classes there was considerable variation between occupations; in social class 3, for instance, mineworkers and clerical workers had a mortality above the average with rates of 137.9 and 124.9, while agricultural workers in class 4 had the low rate of 71.9. The high rate for clerical workers was largely due to the heavy mortality from respiratory tuberculosis and from coronary thrombosis, with rates of 123 and 143. Mineworkers had a very high rate from accidents, 203, while clerical workers had a very low rate, 58. Other high comparative mortality rates for violence, for males aged 15–64, were 209 for water transport workers and 200 for fishermen. Social class 1 had the high comparative mortality of 113 from accidents at ages 15 and over; this is rather surprising, since this class has little occupational risk. The rates for accidents for social classes 2 to 5 were 85, 94, 110, and 124.

The comparative mortality for males aged 15 and over from tuberculosis was over twice as high in the lowest social class as in the top classes, the rates for social classes 1 to 5 being 61, 59, 102, 90, and 143. The rate for tuberculosis varied widely in the various occupational groups, from 39 for agricultural workers to 187 for unskilled workers. Other high tuberculosis rates were 159 for tanners and leather-goods makers and 145 for those professionally engaged in entertainment and sport; low rates were 46 for persons in administrative occupations and 65 for professional occupations. The mortality from coronary thrombosis declined continually with descending social class from 167 in social class 1 to 79 in social class 5, and within the social classes the sedentary occupations had the largest rates. The mortality from vascular lesions showed a similar trend, falling from 128 in social class 1 to 95 in social class 5. The trend was reversed for bronchitis and pneumonia, the rate rising from 63 in social class 1 to 135 in social class 5; the highest rates were found among unskilled workers, 174, and the lowest were those of fishermen, 51, and agricultural workers, 52. Cancer was not related to social class. The rates were 104, 93, 109, 96, and 106 for social classes 1 to 5, respectively, and ranged from 88 to 167 within the main occupational groups.

[1] *Annual Report of the Registrar-General for Scotland, 1955*, 1956, H.M.S.O. 16s.

HEALTH OF SCHOOLCHILDREN

Twenty-five years ago a medical officer examining the children in an elementary school in an industrial area might have expected to find about 5% of them suffering from malnutrition and about 25% in need of medical or surgical treatment.[1] Since then the change for the better in the health of children has been as remarkable as it has been gratifying, and the Chief Medical Officer of the Ministry of Education is now able to report[2] that in 1955 "the physical condition of the great majority of the children was found by school doctors to be satisfactory, only 1.45% being regarded . . . as unsatisfactory." Not only are the average heights and weights of children still increasing, but in Liverpool, for instance, the average weights of 8- and 12-year-old boys and girls considered to be in good health in 1925–7 were less than those of boys and girls of similar age but judged to be in poor physical condition in 1953–5. There is now some evidence that the number of children who are grossly over-weight is increasing.

So far as respiratory diseases are concerned, asthma and bronchitis are still easily the commonest disorders found at medical inspections, and about 1,000 children with asthma are in schools for delicate children. The decreasing prevalence of juvenile rheumatism is reflected in the reduction in the number of children with rheumatic heart disease in special schools. Even so, the Chief Medical Officer estimates that there are probably about 2,000 new cases a year in England and Wales, though only a small minority of the children are left with a damaged heart. Tuberculosis has also greatly declined as a killing disease of children: between 1938 and 1955 deaths fell from 973 to 54. Education authorities

[1] *The Health of the School Child. Annual Report of the Chief Medical Officer of the Board of Education for the Year 1930*, 1931, H.M.S.O., London.
[2] *The Health of the School Child. Report of the Chief Medical Officer of the Ministry of Education for the Years 1954 and 1955*, 1956, H.M.S.O., London.

should now be well aware of the possible danger of children contracting tuberculosis from their teachers, and in 1955 about 1,000 teachers (out of 250,000) were under supervision because of pulmonary tuberculosis. From the mortality figures it might be thought that diphtheria is becoming an insignificant disease, only 5 deaths being reported in 1955, compared with 1,733 in 1938. But towards the end of 1955 there were three small outbreaks of the disease, one of them occurring in a residential school for 80 educationally subnormal boys. In this outbreak there were 19 cases, and 18 carriers were found. Only 40% of the boys had been immunized. This should serve as a warning of what might happen if the proportion of children immunized against diphtheria became dangerously low.

About a quarter of a million children are still found with verminous heads, and in some schools the percentage of verminous children is as high as 15. High infestation rates occur for the most part in areas where the housing is poor and overcrowding at home is common. In contrast to some of the other infections of childhood, both food-poisoning and dysentery are tending to increase rather than decrease. There were 60 outbreaks of food-poisoning in schools in 1955, and in more than half of these the cause was not discovered. At one school there were two outbreaks of food-poisoning due to *Cl. welchii* in five days. On both occasions meat was cooked 24 hours or more before being eaten cold, and an important factor in both outbreaks was a faulty refrigerator.

Urging close and friendly co-operation between the school health service and the family doctor, the Chief Medical Officer recommends that a précis of a child's school medical history should be sent to the family doctor when the child is about to leave school: this, he writes, "should be a permanent feature of the school health service everywhere."

TRIBUTE TO A CARDIOLOGIST

The British Cardiac Society has paid Professor Crighton Bramwell an unusual compliment by dedicating to him the fourth issue of the *British Heart Journal* in 1956 (vol. 18, No. 4), on the occasion of his election to honorary membership of the society. In an introductory note, Dr. Maurice Campbell, the editor of the *British Heart Journal*, describes Professor Crighton Bramwell's services to the society and mentions some of his more important contributions to cardiology. He became a member of the Cardiac Club, the predecessor of the Cardiac Society, in 1923, the year after the club came into existence. From 1928 to 1932 he was secretary of the club, and in 1937 he presided at a special meeting at which the decision was taken to launch the larger Cardiac Society. Shortly after this the society asked the B.M.A. to publish a journal that would meet its special needs, and, the Association having agreed, the first number of the *British Heart Journal* appeared early in 1939, with Professor Crighton Bramwell as one of the original members of the editorial board. It is fitting that the first four articles in the issue dedicated to him should come from the department of cardiology at Manchester, of which he was the distinguished chief until his retirement in 1955.

NEW YEAR HONOURS

Four medical men received knighthoods in the New Year Honours List—Professor G. L. Brown, F.R.S.; General W. A. D. Drummond; Mr. C. D. Read; and Sir Arthur Porritt—and Dr. Janet Vaughan is made a D.B.E.

Professor Brown succeeded Sir Charles Lovatt Evans as Jodrell Professor of Physiology at University College, London, in 1949, and a year ago was elected biological secretary of the Royal Society on the retirement of Sir Edward Salisbury. During the last war he brought to the study of the efficiency of naval personnel a deep experience of neurophysiology gained during the 1930's at the National Institute for Medical Research, partly in Sir Henry Dale's laboratory. He has been a member of the Medical Research Council since 1951 and chairman of its Royal Naval Personnel Research Committee, and his interests have naturally been centred on studying the transmission of nervous impulses. General Drummond was appointed Director-General of Army Medical Services just over a year ago. Commissioned into the R.A.M.C. in 1925 (in the last batch of candidates to be put through a special entrance examination), Drummond early took a special interest in E.N.T. surgery, becoming adviser to the Army in otolaryngology during 1946–51. In the second world war he served in the Middle East, and in addition to British distinctions received a Polish Order for many services to the Polish Army, under General Anders, both in Perthshire and in the Middle East. He was appointed Deputy Director-General in 1954. Sir Arthur Porritt, who received the K.C.M.G. in 1950, is now made a K.C.V.O., an additional honour that will evoke a ready welcome among his innumerable friends throughout the British Commonwealth, and indeed in many countries beyond it, for his travels have been extensive, whether to lecture on surgery or to give advice on sporting affairs. Sir Arthur holds the appointment of Sergeant-Surgeon to the Queen. Mr. C. D. Read was elected President of the Royal College of Obstetricians and Gynaecologists in 1955. Since 1950 he has been Director of the Institute of Obstetrics and Gynaecology at the Postgraduate Medical School, London, a post created on the retirement of Professor James Young from the professorial chair. Like Sir Arthur Porritt, Mr. Read is a New Zealander. Dr. Janet Vaughan has been Principal of Somerville College, Oxford, since 1945. She carried out many studies of blood diseases at the Postgraduate Medical School in the 1930's, and during the war played a leading part in organizing the country's blood transfusion services. Latterly her researches have been mainly into the experimental absorption, deposition, and excretion of radioactive strontium and yttrium. This recognition of her great gifts, both academic and administrative, will be widely acclaimed.

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COMMON INFECTIOUS DISEASES IN GENERAL PRACTICE: CLINICAL*

BY

G. I. WATSON, M.D.

Infection is a reminder that our existence in this world is constantly challenged by our microscopic neighbours. They came first, and our capacity to resist them is a prime condition of our survival. Consideration of this may help us to keep in focus the nature of parasitic invasion and the importance of the body's response to infection. The better we understand, the more useful we can be to sick people during these not infrequent episodes of their lives. In my practice in January, 1955, infectious diseases accounted for 70% of 113 new visits —50% in children and 20% in adults. Even in July they accounted for 50% of 90 new calls—40% in children but only 10% in adults.

The prevalence of these different infections has varied throughout history. In this country infectious diseases fall broadly into two main groups, those due to viruses and others due to bacteria. Some of protozoal origin, which remain common in tropical countries, are to-day rarely encountered here. Those variations reflect the barrier that we have successfully put up between ourselves and the insect parasites since the time when malaria, plague, and typhus were frequently seen in English homes.

In more recent years another barrier has been created —namely, chemotherapy and the antibiotics. These selective weapons have brought us temporary respite from most of the pathogenic bacteria—for how long we cannot yet clearly foresee. Against what are possibly man's older enemies, the viruses, we still have only our natural resistance to rely on. The responses of the body to parasitic invasion and the damage done by the invaders together make up the varied clinical picture of infectious illness.

Identification over the Centuries

Over the course of centuries first one and then another of these common patterns have been identified and described (Osler, 1912; Encyclopaedia, 1952; Walker, 1954). Plague, leprosy, malaria, phthisis, and probably cholera had all been mentioned or described before 500 B.C. Tapeworm infection was known to the Jews of the Captivity, and diphtheria with paralysis of the palate is referred to in the Talmud. Pneumonia with pleurisy, and mumps with its orchitis, were described by Hippocrates 300 years B.C. The association of rabies in dogs with hydrophobia in man was known to Celsus 100 years B.C. On the other hand, although smallpox has been recognized as affecting an Egyptian mummy of about 1000 B.C. (Osler, 1912), the first extant clinical description of it dates only from about A.D. 900 by Rhazes, of Basra. He also first described measles, but as a mild form of smallpox, not as a separate disease. It was Sydenham, in 1675, who first showed that these two were distinct, who also named scarlatina and mentioned its variations in virulence. Just before his time three other common diseases had been first identified—syphilis in 1493, chickenpox in 1553, and whooping-cough in 1578. After Sydenham there was another lull until German measles was described in 1752. The early nineteenth century saw several more diseases separated from the general welter of infection —cerebrospinal fever in 1805, typhoid in 1813 and 1829, herpes zoster in 1831, and infantile paralysis in 1840.

All these descriptions were based on man's unaided senses, but during the second half of last century microscopy helped to quicken the pace, and provided doctors with a means of detecting hitherto invisible differences between one man's illness and another's. Then with the discovery of filterable or ultramicroscopic forms of parasitic life a new chapter was opened, written in a language difficult to read. We in our lifetime are at long last seeing what is known about viruses translated into practical help for the clinician, by means of serology linked with modern tissue culture.

While the discovery of antibiotics has opened the way for the virtual elimination of bacterial diseases as a major cause of human suffering, viral infections—which so far remain largely outside the control of antibiotics—have assumed a fresh importance (Andrewes, 1953). The clinician has once more been thrown back upon his own resources, and must needs study these infections minutely as of old in order to see if he can detect any further differences between the clinical patterns of many undiagnosable epidemics. An accurate description of such a pattern still remains an important duty of every family doctor; the encouragement and collection of these reports is a main objective of the Epidemic Observation Unit of the College of General Practitioners.

Evidence of Infection

First let us consider how we decide that a patient's illness is due to an infectious agent. Evidence falls into two broad categories—that from the patient and that from his associates. In the patient we find first a general reaction—fever and its symptoms. I hold the opinion that we should aim at teaching someone in every household to read a thermometer and to record their measurements on paper for us. I transfer such figures on to a usefully small pocket chart, which covers four weeks. The pattern of fever can be of diagnostic value and may guide us, too, in the duration of our treatment. Speaking of charts, I also encourage my patients with pertussis to keep "cough charts" for me, showing the total number of coughs, whoops, or vomits which occur each day. Such records occupy the children and give a good visual guide to their progress and to the value of one's treatment.

In our patient we next look for evidence of local tissue changes and their symptoms. The meaning of some physical signs is not yet fully understood—for example, painless enlargement of the posterior cervical lymph nodes. A pilot survey among children carried out at his surgery by Dr. J. R. Robertson showed that palpable enlargement of the post-cervical lymph nodes was seldom found in infants, became increasingly common in children of 5-8 years, and was less frequent again in the "teens." This subject is now being further studied in the S.E. England Faculty of the College of General Practitioners, with the help of Dr. I. M. MacDougall, County Medical Officer of Health for Hampshire.

The old physicians examined their cases with the greatest care, discovering, for example, the friction rub of pleurisy, the sweet taste of glycosuria, and Koplik's spots, which are still taken on trust by some of us. The importance of searching for physical signs can be exemplified if we consider how difficult it would be, even now, to distinguish measles without its rash. We need to study the non-exanthematous viral diseases more closely, looking and feeling for fresh abnormal signs. Blood examinations, including serology in the acute and convalescent stages, throat swabs, or throat washings of the patient and his immediate contacts, the collection of sputum for bacteriology or of faecal specimens for both bacteriology and sometimes for virus isolation—these can all on occasion be important laboratory aids, but not short cuts, to diagnosis. Nothing can take the place of regular and frequent examination of our puzzling cases of infectious disease, for it is at the bedside that we will detect our first glimpse of a new syndrome.

*Opening paper in the Section of General Practice at the Annual Meeting of the British Medical Association, Brighton, 1956.

A Fruitful Field

Another fruitful field for inquiry and research in general practice is the evidence which we can gain from our patient's associates. Contacts, incubation periods, and quarantine are the stock-in-trade of our young patients and their parents, both in term-time and in holidays. But what a lot we still have to learn. For example, just how long before or after the rash of measles and chicken-pox or the swelling in mumps is a patient really infectious? Does the duration of contact matter? Does it differ indoors from out-of-doors? I make a plea for the publication of every good example of a single short contact before or after the primary illness which leads to infection of the secondary cases. I have seen measles spread by a 10-minute contact out-of-doors on the day before the rash. Such records would help to fill in many gaps. For example, are we sure yet that the incubation period of glandular fever is short—5 to 12 days, as is usually stated (Price, 1946)—rather than a much longer one, as in mumps or hepatitis? In this respect we should take care to use the term "serial interval," rather than incubation period, when we measure, for example, from rash to rash, rather than from contact to the onset of illness.

Infectivity seems to vary from one outbreak to another, especially in mumps. I am familiar with the family contacts of this disease going down one by one throughout the summer holidays. An epidemic in my practice went through 11 generations of infection. I have heard, too, of a family in Mauritius, with 12 children and many servants, who were in quarantine for mumps for more than a year. Once, however, I had a schoolboy return with mumps into a large family, none of whom had had the disease. My usual forecast was confounded when his mother and her five other children all developed mumps on the same day, the day they were moving house. They all went by ambulance.

As regards quarantine, is it not time that our profession challenged the schoolmasters, or rather mistresses, particularly over the question of German measles? I would like to encourage "German measles tea parties" to which an infected girl might invite her non-immune school friends, or a holiday camp run by the Medical Research Council, where an attempt could be made to keep a culture of the disease going by constant replenishment among the young volunteer visitors.

Seasonal Prevalence

Consider, now, another aspect of the differential diagnosis of infections of unknown origins—namely, the value of learning the seasonal prevalence of some of the diseases that are less well known. Winter vomiting disease is coming to be recognized for what it is—a common disease among our patients. It appears to occur sporadically throughout the year, becoming epidemic in the autumn, perhaps decreasing in the coldest weather, and increasing somewhat again in the spring. The spread of winter vomiting disease has been traced by collective reports from 158 family doctors, each of whom saw a few cases for only a few days or weeks. The reports gave details, not of patients, but of the presence or absence of an outbreak in the district.

The season for Coxsackie virus infections is not yet well established. In several years, about April, I have seen little groups of cases of sudden dry pleurisy that may have been Bornholm disease. During the late summer and autumn I have followed an outbreak of Coxsackie virus infection from Oxford to Shere, through seven generations of infection. None of these cases really looked like non-paralytic poliomyelitis: the onset of high fever was very sudden—one boy took ill while on a swing; the children neither felt nor looked as ill as their temperatures suggested; many of them had unduly pink-looking eyes but no photophobia; there was headache but no dorsal spasm; the fever ceased without drugs in 24–48 hours; and convalescence was rapid (College of General Practitioners, 1954).

A.P.C. Group of Viruses

In June, 1955, I was privileged by their medical officers to visit two public schools where outbreaks due to viruses of the adenoidal-pharyngeal-conjunctival group, recently identified in America (Huebner *et al.*, 1954; *Lancet*, 1955), were occurring. Serological tests in a family in my own practice then showed that an outbreak of conjunctivitis among them just previously had also been due to a similar virus. We have no idea yet how prevalent these A.P.C. virus infections really are. In the following September and October an epidemic among schoolchildren at another village in my practice, associated with high fever, headache, mild sore throat, abdominal pain, and glandular enlargement, was proved almost certainly to be due to a virus of this same group; and in May, 1956, a boy with "pink eye" and high fever was also found to be positive. Here, then, were three such outbreaks in one practice within a year.

I had a chance to make use of my clinical observations about the autumn epidemic which I saw. During it one of the schoolboys, not yet affected, broke his leg and was admitted to hospital. I phoned the house-surgeon later and warned him that if the boy suddenly developed a temperature of 104° F. (40° C.) there might be no need for alarm. He duly did so, and it was in fact from him that we obtained serological proof of the nature of his infection. The first boy to take ill in this epidemic was admitted to hospital and had his appendix removed, being afterwards labelled as acute non-specific mesenteric lymphadenitis. On the day after he was taken ill several more of his schoolmates went down, and it was clear that we were dealing with an epidemic. Perhaps we should test future cases of mesenteric lymphadenitis serologically for evidence of recent infection by A.P.C. viruses.

Before leaving the subject of differential diagnosis of infections of unknown origins, I would like to emphasize this reddening of the conjunctivae. It is a feature of several virus diseases; measles, of course, is the best-known example, but the reddening of the eyes in some patients with A.P.C. virus infection is even more striking. Injection of the conjunctivae in a feverish child should put us on guard that we may be dealing with a viral rather than a bacterial infection.

I now raise the subject of the comparative severity of viral illnesses in primary and secondary cases, and in children of different ages. For some years I have had the impression that secondary cases of chicken-pox are more severely affected than the primary, if all are in the same house. This factor of house contact seems to override the factor of age in determining severity, especially in chicken-pox, and may be due to a heavier infection contracted over a longer period; otherwise both in chicken-pox and in measles I observe that the younger children suffer a lighter attack, while teenagers and adults are usually more severely ill (Watson, 1954).

Problems in Treatment

A mother often first recognizes that her child is feverish between tea-time and going to bed, or because he cannot get to sleep. It follows that in general practice a doctor frequently starts his treatment of infectious disease towards nightfall. What can he do to help? When I diagnose a bacterial infection likely to respond to an antibiotic—for example, acute sore throat or otitis media—I consider that immediate treatment should be given, whenever possible, with penicillin by injection. I prefer this to a sulphonamide because of its rapid action without the risk that vomiting may delay the start of effective therapy. The pain of early acute otitis media may cease within three hours after an injection of 500,000 units of penicillin G without any other drugs being given. Later doses of penicillin can be given orally. If, however, the diagnosis is in doubt, or where I suspect I am dealing with a viral infection, I prefer to see what the morrow brings. During the summer or autumn I tend particularly to avoid parenteral penicillin

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in a child with fever until the need for it is clear; at that season I prefer to give penicillin in liquid or tablet form rather than by injection, especially if poliomyelitis is prevalent locally.

At my first visit, before leaving I shall be asked for "something for the night." Until recently I was as content as anyone to prescribe aspirin for this purpose in a feverish patient, but three years ago a case "went wrong," which made me stop to think. We are all familiar with the similarity between aspirin and cortisone in suppressing the inflammatory reaction of the body in rheumatic disease. Cortisone also suppresses the body's reaction against all parasitic infection, and, for example, may liberate a latent tuberculous focus. Has aspirin this danger too? I believe that recovery from influenza may be delayed by aspirin, and that a sore throat can become more extensively affected. Some of the prostration in those who have dosed themselves with aspirin compounds before asking for our help is due, I believe, to their reduced resistance. This is a problem, however, which needs much more clinical and laboratory investigation. For example, is aspirin dangerous in poliomyelitis? Can it, like cortisone, increase the susceptibility of healthy rhesus monkeys to infection by poliomyelitis virus? Can it influence the amount of paralysis resulting from invasion by this virus? Should we warn our patients against their ready use of aspirin for fever and headache, especially during the summer and autumn?

I try now to avoid prescribing aspirin at night except in hyperpyrexia, and am looking for a good sedative and analgesic for children which is not antipyretic.

While on the subject of symptomatic treatment, there is a use of antihistamine drugs to which I would like to draw attention. For several years I have been using full doses of mepyramine maleate in children with chicken-pox for the irritation which characteristically accompanies the rash (Watson, 1954). In children who were expecting an attack and who have been able to start taking their tablets as soon as the rash appeared I have found that the eruption is modified by the drug in two respects: first, a smaller proportion of the spots go on to form blisters by the fourth day, and, secondly, around each blister the ring of erythema is smaller. In one family the mother was kind enough to attempt a measurement of the first difference for me on her two boys. The elder was not treated with mepyramine, as I was away; on his front he had 154 spots, of which 45 blistered (29%), and on his back 211, of which 39 blistered (or 18%). His younger brother had a heavier crop of spots, as I expected, being the secondary case, and fever to 102° F. (38.9° C.) for four days. But of his 286 spots in front only 31 (or 11%) blistered and only 28 (9%) out of 314 on his back (see Table).

Effect of Mepyramine Maleate on Blistering in Chicken-pox

	Age	Number of Spots				
		Front		Back		
		Total	Blistered	Total	Blistered	
D.C.	9	154	45 (29%)	211	39 (18%)	untreated
P.C.	7	286	31 (11%)	314	28 (9%)	treated

College of General Practitioners' Report

On the subject of treatment, I want finally to refer to the prophylactic use of sulphonamides and antibiotics, particularly in measles. Three years ago about 130 of us in general practice agreed to keep records about our cases of measles in a way that could subsequently be analysed. We hoped to measure some of the influences which affect the likelihood of complications arising in any particular child, to see how these could be prevented. The results of this investigation, based on 4,728 records, have been published by the College of General Practitioners (1956).

In children who were healthy at the onset of their measles we found that it was the severity of the measles itself which mainly determined the incidence of complications. Among mild cases the rate was only about 4%, among the average cases it rose to about three times, and among severe cases it was ten times this figure. There were proportionately more mild cases of measles among infants and young children than among those of school age. In children under 5, the proportion of mild cases was slightly but significantly higher among those who were breast-fed than among those who were not. If complications did arise in young children they were more likely to affect the chest than the ear; among previously healthy children, acute otitis media was not seen under the age of 2. For each grade of severity the incidence of complications scarcely varied in different types of practice—urban, mixed, or rural; but gross overcrowding in any house nearly doubled the incidence of complications compared with an ordinary house. If instead of being healthy the child showed at the first visit physical signs that were not normal in measles, the incidence of complications rose from 4% to about 20% in mild cases, to about 40% in an ordinary attack, and to 66% if the measles was severe. Even a past history of infections of the ear or chest increased the complications rate, particularly when the measles itself was mild; this was also true if the child was one whom we would call "catarrhal." These differences, however, were less striking among the average cases and not noticeable where measles was severe.

Instead of lowering the total incidence of complications in measles, the use of sulphonamides as routine, without reference to any of these factors, raised it slightly in all types of practice and for all grades of severity. In measles of average severity, however, the incidence of acute otitis media and other aural complications was lowered by the routine use of sulphonamides, though only at the cost of doubling the rate for pulmonary complications. The routine use of oral penicillin or other antibiotics lowered the total incidence of complications slightly. It had least effect upon the rate for otitis media in the ordinary case and most upon the rate for pulmonary complications in severe measles.

To sum up, the routine use of antibacterial drugs confers little or no benefit on a healthy child undergoing an ordinary attack of measles, and indeed it may do harm. If, however, the child is not healthy; if its attack of measles is judged to be severe; particularly if there are already abnormal signs present in its ears or chest; then antibacterial treatment will probably be required. In deciding the most suitable drug to use for any such child we must bear in mind that the action will be curative, not strictly prophylactic. We should therefore wait for clear indications of the need for such treatment, rather than embark upon an expensive and sometimes harmful routine. These drugs can help us to resist the challenge of our bacterial neighbours, but only when appropriately used.

Summary

Infectious diseases may account for more than 50% of new visits in an English country practice. Since before 500 B.C. descriptions of epidemics based on man's unaided senses have survived, but in the last century microscopy provided a new means of differentiating between one infection and another. The control of bacterial diseases by antibiotics has brought viral infections into fresh prominence. A description of epidemic diseases of unknown origin based on careful examination still remains an important duty of every family doctor.

Much work remains to be done in the biometrics of infectious diseases. Useful records of temperature and progress charts in whooping-cough can be kept in many homes. Some physical signs need revaluation—for example, enlargement of the posterior cervical lymph nodes.

In general practice, treatment of infectious disease often starts towards nightfall, and some possible arguments against the widespread use of aspirin are given.

The report of the College of General Practitioners on the complications of measles is summarized, and the need for clear indications for antibacterial drugs is emphasized.

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MEDICAL NEW YEAR HONOURS

The names of the following members of the medical profession were included in the New Year Honours List published in the *London Gazette* on January 1.

K.C.V.O.

Sir ARTHUR ESPIE PORRITT, K.C.M.G., C.B.E., LL.D., M.Ch., F.R.C.S. Sergeant-Surgeon to the Queen. Honorary Consulting Surgeon to the Army.

K.B.E. (Military Division)

WILLIAM ALEXANDER DUNCAN DRUMMOND, C.B., C.B.E., F.R.C.S., D.L.O. Lieutenant-General, late R.A.M.C. Director-General, Army Medical Services.

D.B.E. (Civil Division)

JANET MARIA VAUGHAN (Mrs. Gourlay), O.B.E., D.M., F.R.C.P. Principal, Somerville College, Oxford.

Knighthood

GEORGE LINDOR BROWN, C.B.E., M.Sc., M.B., Ch.B., F.R.S. Jodrell Professor of Physiology, University College, London.

CHARLES DAVID READ, M.B., Ch.B., F.R.C.S., F.R.C.S.Ed., F.R.A.C.S. President of the Royal College of Obstetricians and Gynaecologists.

C.B. (Military Division)

ALFRED EDWARD CAMPBELL, M.D., D.P.H. Major-General, late R.A.M.C. Honorary Physician to the Queen. Director of Army Health.

JOHN CONRAD NEELY, C.B.E., D.M., D.O., D.O.M.S. Air Vice-Marshal, R.A.F. Honorary Surgeon to the Queen. Consultant in Ophthalmology, R.A.F.

C.B. (Civil Division)

Sir WELDON DALRYMPLE-CHAMPNEYS, D.M., F.R.C.P., D.P.H. Lately Deputy Chief Medical Officer, Ministry of Health.

C.M.G.

JOHN GEORGE HUNTER, M.B., Ch.M. General Secretary of the Federal Council of the British Medical Association in the Commonwealth of Australia.

C.B.E. (Military Division)

DAVID HERBERT KERNOHAN, M.B., B.Ch. Surgeon Captain, R.N. (retired).

LIONEL LOCKWOOD, M.V.O., D.S.C., M.D. Surgeon Rear-Admiral, Royal Australian Navy.

C.B.E. (Civil Division)

HAROLD MAURICE COHEN, M.D., D.P.H. Principal School Medical Officer for the City of Birmingham.

HUMPHREY FRANCIS HUMPHREYS, O.B.E., *M.C.*, T.D., M.B., Ch.B., F.D.S. R.C.S. Formerly Vice-Chancellor of the University of Birmingham and Emeritus Professor of Dental Surgery in the University. For services to dental surgery.

JOHN MCQUEEN JOHNSTON, M.D., F.R.C.S.Ed., M.R.C.P.Ed. Principal Medical Officer and Pharmacologist to the Department of Health for Scotland.

RONALD EPEY LANE, M.D., F.R.C.P. Nuffield Professor of Occupational Health in the University of Manchester. Member of Industrial Health Advisory Committee.

JOSEPH ANTOINE RENÉ LAVOIPIERRE, M.D., D.P.H., D.T.M. Director of Medical Services, Mauritius.

JOHN FREEMAN LOUTIT, D.M., F.R.C.P. Director, Radiobiological Research Unit, Harwell.

GEORGE WILLIAM JOHN MACKAY, M.B., Ch.B., D.P.M. Medical Superintendent, Rampton Hospital, near Retford, Nottinghamshire.

WILLIAM NORMAN PICKLES, M.D., D.Sc., F.R.C.P.Ed., M.R.C.P. Lately President of the College of General Practitioners.

RALPH WHISHAW, M.B., Ch.M., F.R.A.C.P., F.R.C.P. A prominent physician in Hobart, Tasmania.

CHARLES FRANCIS WHITE, O.B.E., M.D., D.P.H., D.T.M. Lately Medical Officer of Health for the City of London. Recently President of the Society of Medical Officers of Health.

O.B.E. (Military Division)

JOHN GEOFFREY WAUGH, L.R.C.P.&S.Ed. Lieutenant-Colonel, R.A.M.C., T.A., now Territorial Army Reserve of Officers.

O.B.E. (Civil Division)

LESLIE WILSON BANKS, M.B., Ch.B. Senior Medical Officer (Clinical), Western Region, Nigeria.

WILLIAM JOSEPH BRANDAY, M.R.C.S., L.R.C.P. Superintending Medical Officer (Specialist), Trinidad.

WILLIAM MICHAEL COURT BROWN, M.B., Ch.B., F.F.R. Director, Group for Research on General Effects of Radiation, Medical Research Council.

ARTHUR BARRETT CARDEW, *M.C.*, M.B., B.S., F.R.C.S.Ed. Commissioner, St. John Ambulance Brigade, Gloucestershire.

WILLIAM RICHARD SHABOE DOLL, M.D., M.R.C.P. Senior Member, Statistical Research Unit, Medical Research Council.

HENRY JOHN CHADWICK HANRAHAN, M.B., B.S. A medical practitioner of Albany, Western Australia. For services to the community.

RICHARD WILLIAM DAVID MAXWELL, M.B., Ch.B. Lately Deputy Director of Medical Services, Fiji.

SYDENHAM FREDERICK MOORE, B.M., B.Ch. British subject lately resident in Egypt.

HAYDN JONES MORRIS, M.R.C.S., L.R.C.P. For public services in the Federation of Rhodesia and Nyasaland.

ERIC PARRY, M.B.E., M.B., Ch.B., F.R.C.S., F.R.C.S.Ed. Chief Medical Officer to the Kuwait Government.

WALTER LAING MACDONALD PERRY, M.D. Director, Department of Biological Standards, National Institute for Medical Research.

JOHN CHARLES ROBB, M.D., M.Ch. Consulting Surgeon, Downe Hospital, Downpatrick, Co. Down.

GEORGE SIMPSON, M.B., B.S., F.R.C.O.G., M.R.C.P., of Ivanhoe, Victoria. For services to the Flying Doctor Service of Australia.

WILLIAM ARTHUR LEIGH TUCKER, F.R.C.S.Ed., F.R.F.P.S. Surgeon Specialist, Aden.

M.B.E. (Military Division)

JOHN VAUGHAN-BRADLEY, T.D., M.B., B.Chir., F.R.C.S.Ed. Major, R.A.M.C., T.A.

M.B.E. (Civil Division)

OLIVE GUMPRICH, M.B., Ch.B. For social welfare services in Southern Rhodesia.

SYDNEY DOUGLAS GUN-MUNRO, M.B., B.S., D.O. Resident Surgeon, Colonial Hospital, St. Vincent, Windward Islands.

SEBASTIAN BYEKWASO KYEWALYANGA. For medical services in Uganda.

ALEXANDER DAVID BAIN MACKIE, M.B., Ch.B. Chairman, Birmingham "Stirling" Sea Cadet Corps Unit.

GEORGE DAVIS MCLEAN, M.R.C.S., L.R.C.P., D.T.M.&H. Medical Officer, St. Kitts, Leeward Islands.

ROBERT CUTHBERT OGG, M.B., Ch.B. Formerly a Medical Officer in Basutoland.

FRANK BLACKLOCK THOMSON, M.B., Ch.B. Deputy Chairman, Dundee National Service Medical Board.

Correspondence

Because of heavy pressure on our space, correspondents are asked to keep their letters short.

Cholesterol and Vascular Disease

SIR,—I was glad to read Sir John McNee's letter (*Journal*, November 17, 1956, p. 1172) on this subject. By the time this reaches you others will doubtless have pointed out that cholesterol feeding (or stuffing) can produce vascular lesions in other animals than the rabbit—e.g., in chicks, dogs, and, under certain experimental conditions, the rat and the monkey. But these are slim pickings in return for years of work on this subject, and, if I read correctly between the lines of Sir John McNee's letter, I suspect that he is as weary as I am of the dreary and uninspired feeding of what must now amount to many tons of cholesterol to many thousands of assorted birds, beasts, and, it may be, fishes during the past few years. And as regards the serum cholesterol levels of the South African Bantu—heavens! There will soon be as many nutritionists out there as Bantus.

Over here in the States a remarkable situation has developed since President Eisenhower's attack of coronary thrombosis. It is now easy—too easy—to get vast sums of money for the support of research on vascular disease. Now there is nothing wrong with this except that these funds tend to be given to a small number of ringmasters who are fanatically conducting large cholesterol circuses to the exclusion of other studies that would appear at least as worthy of attention. I know of one department—that previously had a fine and diverse record of work in experimental nutrition—which now, alas, has become a cholesterol circus. How this came about is simple: an enormous grant was awarded for vascular studies, and that was the finish of those sturdy individualists who flatly refused either to add cholesterol to their experimental diets or, alternatively, to study serum cholesterol levels in their experimental animals. It is interesting to speculate what might happen if a future President were to die of gastric cancer—one suspects that the study of possible, and impossible, dietary carcinogens would boom alarmingly, and that this would have a disastrous effect on other equally promising lines of attack.—I am, etc.,

Cambridge, Mass., U.S.A. L. R. C. AGNEW.

Hyperparathyroidism and Steatorrhoea

SIR,—In a letter by Drs. Russell Fraser and B. E. C. Nordin (*Journal*, December 8, p. 1363), they query, quite rightly, the report of a low urinary calcium excretion associated with a serum calcium level of 11.4 mg. per 100 ml. in the presence of a normal blood urea. They suggest that an error in the serum calcium estimation or possibly a raised protein-bound calcium fraction might explain the discrepancy. We recently had a similar experience in the laboratory of the Courtauld Institute of Biochemistry, and, unable to reconcile the serum and urinary calcium figures, we repeated both determinations only to obtain comparable figures.

It was suspected that in this case it was the urinary calcium figure which was unreliable, since the estimation had been carried out on a 200 ml. aliquot, supplied by the ward, taken from a 24-hour urine specimen collected in a clean Winchester containing toluene as a preservative. It seemed possible that the aliquot was taken from the upper part of the Winchester without adequate mixing, so that precipitated calcium phosphate remained undisturbed at the bottom of the bottle. Under such circumstances the aliquot clearly would not be representative of the calcium content of the entire 24-hour specimen. This hypothesis was tested by allowing a 24-hour specimen to stand in the laboratory overnight, after which it was found that the calcium content of the clear supernatant urine was equivalent to only 30 mg. in the 24-hour urine volume, whereas that of urine from the bottom of the Winchester was equivalent to 200 mg.

It seems therefore that inadequate mixing of 24-hour specimens of urine submitted for calcium and phosphate determinations may be an important source of error if the reaction of the urine is alkaline. This may be avoided by using 10 ml. of concentrated hydrochloric acid as a preservative when collecting such specimens, so that precipitation of calcium phosphate is prevented. Alternatively, specimens collected using other preservatives should be acidified before the aliquot used for the estimation is taken.—We are, etc.,

E. T. KNUDSEN.
London, W.1. A. L. MILLER.

Varicose Ulceration

SIR,—Some years ago I published the results of some 100 cases of varicose ulceration treated with an aqueous solution containing 1% silver dinaphthylmethane disulphonate.[1] I have continued to use the solution during the past five years along the lines suggested in that article and with the same success. This solution does, however, exhibit the following disadvantages: (1) In certain cases it causes a stinging sensation for some minutes after application; (2) gauze impregnated with the solution tends to adhere to the ulcer, causing pain on removal when some granulations or early epithelization may be torn off; (3) it produces a thick firm scab round the edges of the ulcer which causes pressure pain when covered by tight supportive bandaging with localized pressure pad; (4) it is necessary to renew dressings of the solution twice daily, which is an inconvenience to the patient.

In an endeavour to find some agent which would retain the properties of silver dinaphthylmethane disulphonate but without these disadvantages, trials were carried out in my varicose ulcer clinic with an oil-in-water emulsion containing 1% of this compound ("viacutan" emulsion). Dressings were applied once daily by pouring a little of the emulsion on to 4–6 layers of white gauze which were placed on the ulcer and covered with cotton-wool and a built-up pad of plastic foam. The whole leg from the webs of the toes to the knee was then tightly, firmly, and uniformly compressed with a cotton elastic non-adhesive bandage. The patients were taught this technique—fully described in my original article; they came for inspection once weekly or fortnightly.

During the past six months I have treated 61 cases of gravitational and ischaemic ulcers with this emulsion. Thirty-two cases were healed outright, 20 improved, and nine cases showed no response. Those of my colleagues who are using the aqueous solution will doubtless be interested to learn that the emulsion has proved to be superior in that it caused no pain on application; dressings were applied only once daily and were removed without discomfort; there was less pain on pressure bandaging because of the smaller softer scab which was formed; and, most important of all, the healing time was shortened.—I am, etc.,

Liverpool, 1. STUART MCAUSLAND.

REFERENCE

1 McAusland, S. D., *Med. Press*, 1951, 226, 483.

SIR,—I agree with Dr. B. FitzGerald (*Journal*, December 22, 1956, p. 1484) that it is often necessary, and indeed desirable, to treat varicose ulcers without putting the patient to bed. I would, however, sound a note of warning about the use of chloramphenicol as a local application. Some years ago it was a common practice in our department to treat those varicose ulcers, in which secondary infection appeared to be an important factor, with chloramphenicol cream. Although results were good at the time, a considerable number of the cases were found to have acquired a sensitivity to chloramphenicol when they were again treated for a recurrence with chloramphenicol cream a year or two later. I have since abandoned the use of chloramphenicol as a local application for any skin condition, as it appeared to be a potent sensitizer. That it is so is borne out by a

recent survey of cases of contact dermatitis produced by medicaments which were referred to the skin department. Of 46 cases of dermatitis medicamentosa treated in 1955, in which the cause of the dermatitis was proved by patch-testing, chloramphenicol headed the list with 11 examples. Several of these were due to chloramphenicol in propylene glycol used as ear-drops.

Since the cause of varicose veins is chronic venous stasis due to failure of the leg muscle pump,[1] some form of elastic compression bandaging is a logical and in practice successful form of treatment. The majority of patients suffering from gravitational ulcers who attend the Sheffield Skin Department are treated as out-patients with woven, non-adhesive, elastic bandages applied from the toes to the knee. Local applications of eusol and paraffin, in equal parts, or sterile paraffin, moll. are used and local antibiotics are found to be unnecessary. Those cases with associated eczematous changes respond well to the compression bandaging, though it may be necessary to apply Lassar's paste or an occlusive "coltapaste" bandage beneath the elastic bandage. One great advantage of the elastic bandage is that the patient can be persuaded to wear one after the ulcer has healed as a prophylactic measure to prevent recurrence, and, since their effective life is 8 to 12 weeks, they are not expensive.

I am, etc.,

Sheffield, 6. I. B. SNEDDON.

REFERENCE

[1] Anning, S. T., *Leg Ulcers*, 1954, p. 34. Churchill, London.

Peroneal Muscular Atrophy

SIR,—Dr. Robert Gibson's very interesting article on peroneal muscular atrophy (*Journal*, December 1, p. 1281) has prompted me to write of a case I saw recently which makes an interesting comparison with his cases. This was a middle-aged man who one year previous to my seeing him (if his account was correct) started his present illness. He had a fixed bilateral foot drop, early bilateral pes cavus, some claw-toe appearance, and marked wasting of the peroneal group of muscles. He had distal wasting and weakness of the upper limbs and a tonic atrophic type of bulbar palsy. In contrast to Dr. Gibson's cases, fibrillation was very marked in this patient.

The patient, a farm labourer of poor intellect aged 49 years, did not impress one as a very reliable historian. He stated his illness started in December, 1955, with weakness and stiffness of his right ankle and foot. He continued to work until May, 1956, but had to give up then, as his left ankle and foot became similarly affected and he found great difficulty in walking. About this time his speech became affected, and subsequently his hands became weak. His only previous illnesses of note were an attack of acute rheumatism at 26 years of age and a subacute attack of same 19 years later. There was no family history of nervous or mental disease. Both his parents lived to over 70 years. He was one of 12 children, 9 of whom are still living and in good health; of the two dead, one died following an appendicectomy, the other from a ? haemorrhage.

On examination the patient had a marked slurring dysarthria, bilateral facial weakness with peculiar straight mouth, poor palatal movement, and a tongue showing fine fibrillation and poor movement. The jaw-jerk was brisk. Wasting and weakness were confined to the distal parts of the upper limbs, particularly on the left side. The thenar and hypothenar eminences, the interossei and lumbricals were all markedly wasted. The wrists were slender for a manual worker. Sensation appeared to be normal and the arm jerks were brisk. The signs in the lower limbs were marked wasting of the peroneal group of muscles, fixed bilateral pes cavus, and claw-toes with wasting of the small foot muscles. Plantar responses were absent, the left ankle-jerk was missing, but the right ankle-jerk gave a slight response. The knee-jerks were normal. Sensation appeared to be unimpaired except that vibration sense seemed to be lost over both patellas. The abdominal reflexes were easily elicited. Fibrillation was marked in the tongue, proximal muscles of the arm, muscles of the shoulder girdle, thighs, and calves.

I would be very interested to learn if this could be an unusual form of lower motor neurone disease (progressive muscular atrophy) with early contractures of the feet, or is it an acute form of peroneal muscular atrophy developing in a male of nearly 50 years?—I am, etc.,

London, S.W.7. J. BUCKLEY.

Health of Refugees

SIR,—People of good will throughout Britain will sympathize deeply with the profound suffering of the Hungarian people during the past few years. In this age of chauvinism and intense nationalism it is with pride that we find this country and its people opening its doors to the victims of political intolerance. In the light of the privation and hardship these new émigrés have experienced during the past ten years, it would seem to be a wise measure to *x*-ray the chests of all these Hungarian refugees at the reception centres, and again six months and one year after arrival in this country. This would ensure that any tuberculous disease is treated in its earliest possible stages and its spread to their British hosts be prevented.

My sole desire in writing this letter is to avoid the many personal tragedies due to tuberculosis which followed the influx of the European voluntary workers at the end of the last war, and in which the Ministry of Health failed to take adequate advice and precautions. On no account should the publication of this letter be utilized as a means of *excluding* Hungarian refugees who are sufferers from tuberculosis from the security of this island. I hope that, as a nation, we shall always exhibit the same political and social maturity in welcoming the victims of intolerance to our shores.—I am, etc.,

Halifax. BERTRAM MANN.

Farmer's Lung

SIR,—We were interested to read the report of 10 cases of farmer's lung by Drs. D. Ivor Williams and P. P. Mulhall (*Journal*, November 24, p. 1216), and would like to mention our experiences of this condition in an adjacent area. Similar geographical and climatic conditions exist, and in the winter of 1954–5 we experienced a similar epidemic of farmer's lung. Between November, 1954, and June, 1955, 19 cases were seen by us, two of whom were females. Our findings were similar with regard to symptomatology and radiographical appearances. All presented with exertional dyspnoea. This is typically out of proportion to the physical signs which can be elicited. Of our 19 cases, 16 showed fine mottling, and this was confined to the lower lung fields in 12. Two cases (a girl of 16 and a man of 21) were at first thought to have miliary tuberculosis, and were admitted to hospital and treated as such. Rapid clinical and *x*-ray clearing within two to three weeks enabled us to revise our diagnosis. The average duration of symptoms before reference to the chest clinic was six weeks. We were, however, only seeing cases with persisting symptoms. Conversation with general practitioners in this part leads us to believe that the disease is indeed prevalent after bad harvesting conditions.

Drs. Williams and Mulhall insist on the absolute efficacy of potassium iodide. In our experience, while some cases respond satisfactorily to potassium iodide (including those treated successfully by the general practitioners and therefore not referred to us), no less than 12 of the 19 cases in our group needed chemotherapy in full dosage. Seven had penicillin, three "seclomycin," and the two thought to have miliary tuberculosis streptomycin and isoniazid. We note that Drs. Williams and Mulhall themselves found rapid clearing in a patient treated with streptomycin, although she did not have potassium iodide.

We would agree that it is most important to emphasize to the patient the need to avoid further exposure to hay dust. A simple face mask, if exposure is unavoidable, is advisable. Complete recovery, as Drs. Williams and Mulhall emphasize, may take up to three months, but we had two patients who still complained of exertional dyspnoea and lassitude after five months. These could, however, be early in Fuller's phase 3. There can be no doubt that

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farmer's lung is endemic in mid-Wales and is a severe danger to the hill farmer. Outbreaks are no doubt associated with a wet harvest period and with poor ventilation in the shippons. We wonder if another epidemic is upon us after the atrocious weather at harvest-time this year. The mild weather at present has reduced the need for indoor feeding, and fortunately only one case has so far been encountered this winter by us.—We are, etc.,

G. O. THOMAS.
J. J. GRIFFITHS.

Machynlleth, Montgomeryshire.

Recent Remedies for Hypertension

SIR,—A note of caution is necessary in the use of recently introduced synthetic remedies in the treatment of hypertension. Hypertension and cardiovascular accidents are extremely common these days all over the world—in some countries, however, such cases are more frequently met with than in others. The medical profession is also actively engaged in determining the various causes which lead to hypertension, especially in younger subjects. Arteriosclerotic changes in the vascular system have been found to occur in young people who may be said to be ageing at a fairly early age. Kidney changes also occur in them. Stress and strain of life is no doubt the most important cause of early wear and tear of the body. Endocrine upset (imbalance) with hyperfunction of adrenal and pituitary glands, faulty metabolism, and injudicious diet are also essential causes of atherosclerotic changes and hypertension in younger subjects. These changes are gradual and natural in people over 60 years of age and usually set in after the age of 50. We are conscious of the fact that one has to go slow after 50, especially in a tropical climate when old-age symptoms appear abruptly in individuals.

The present-day market is flooded with powerful hypotensive remedies which always precipitate a sudden steep fall in hypertensive patients used to a high level of pressure. I have come across cases where sudden fall of pressure induced by ganglion-blocking agents has resulted in kidney failure and death from uraemia. Besides, with a high level of pressure, the blood supply to cardiac muscle is fairly well ensured, even though cardiac blood vessels have undergone atheromatous changes: a sudden fall of pressure in such subjects may precipitate heart attacks. The treatment of high blood pressure, therefore, except in acute emergencies, should always be conservative. The recent synthetic compounds should not be used drastically to show miraculous results and go against nature. Ample rest, simple diet, preferably vegetarian with a rice diet, aided by milder remedies like the central sedatives to induce good and wholesome sleep, purgatives, and, if hypotensive drugs are to be used, the safer ones should be prescribed, particularly rauwolfia preparations; when hypertension induced by organic damage is incurable, drastic remedies should never be encouraged. Moreover, one's body system can adjust to high pressure to a great extent. Lastly, we have to remember that "hypertension" is a relative term, and people with high pressure often go undetected and symptomless, and are normally engaged in their daily routine.—I am, etc.,

M. D. CHAKRAVARTI.

Calcutta, India.

Neostigmine-resistant Curarization

SIR,—This correspondence is penetrating ever deeper into the maze of speculative pharmacology. Before it gets completely beyond the range of the clinical anaesthetist, may I make some practical observations?

Soon after suxamethonium was introduced, and it had been recognized that muscle-relaxants fall into two main groups, I encountered prolonged and unexpected apnoea in three patients. The first one had suxamethonium for oral intubation followed later by D-tubocurarine, the second had been curarized for a long abdominal operation and was given suxamethonium for closing the parietal peritoneum, while the third had a continuous suxamethonium drip infusion.

Since that date I have never used a relaxant of each type on the same case, nor have I given continuous suxamethonium, and I have never encountered any unexpected reactions. I would venture to suggest that, if these simple rules were followed, unfortunate mishaps would diminish. After all, for a long operation intubation can be performed quite easily under D-tubocurarine, and, if further injections of this drug are not given within 40 minutes of the end, no neostigmine will be required. The abdomen can be closed satisfactorily with 100–150 mg. thiopentone, which causes no side-effects except a slight and transient fall in blood pressure. In my view, the use of an antagonist is usually a confession of failure, and these drugs are by no means devoid of risk, however they are given. Suxamethonium is extremely useful for the purpose for which it was introduced—that is, an ultra short-acting relaxant. If, however, it is given continuously as an intravenous infusion the circulation may well become overloaded with unwanted fluid while succinyl monocholine may accumulate to such an extent that prolonged apnoea will continue after the drip has been stopped.—I am, etc.,

C. LANGTON HEWER.

London, E.C.1.

SIR,—Quotation out of context can be an effective controversial weapon more appropriate perhaps to the political forum than to this *Journal*. I hope that readers of the little contribution to this discussion by Dr. M. H. Armstrong-Davison and Professor E. A. Pask (*Journal*, December 29, 1956, p. 1544) will refer to my original letter (*Journal*, December 8, p. 1365) before deducing just what I considered had been established "beyond reasonable doubt."—I am, etc.,

T. CECIL GRAY.

Liverpool, 7.

Increase in Scabies

SIR,—My colleague, Dr. F. F. Hellier (*Journal*, November 10, 1956, p. 1117), has reported a significant increase in the number of cases of scabies attending the out-patient department in Leeds, but he has omitted to give any figures to substantiate this statement. We have noticed no such increase in Newcastle, a city of similar type though smaller in size. I append the figures relevant to the subject:

	Total Number of New Patients	Cases of Scabies
1956	5,079	15
1955	5,037	21
1954	5,231	20
1953	5,139	16
1952	5,440	19

I shall be interested to hear his observations on this. Further correspondence from Dr. Margaret S. M. McGregor (*Journal*, December 15, 1956, p. 1427) under the same heading suggests that "heat spots" may be due to an acarus. It should be quite easy to prove this by repeated scrapings from early vesicles placed in two drops of 20% liquor potassae and examined under the microscope. I have done this many times with negative results, but, believing that the "heat spots" of papular urticaria were parasitic in origin, I turned my attention to other species in collaboration with Dr. E. T. Burtt (*Journal*, May 19, 1956, p. 1130). We feel that most cases of papular urticaria can be explained on the basis of bites by fleas of various species, or even possibly by lice from certain animals, such as the dog, pig, or cattle. This is often difficult to prove, and neither patients nor doctors are easy to convince, but further work is being carried out in this connexion with visits to the homes of the sufferers. Children who have experienced repeated crops of heat spots for years with severe irritation obtain complete and lasting relief from these distressing symptoms if the search for the source of infestation is persisted in till it is traced, and then adequate treatment is

directed towards the home or animal contacts there or in the neighbourhood.—I am, etc.,

Newcastle-upon-Tyne, 2. R. MASON BOLAM.

SIR,—Although I have never marshalled my facts as has Dr. Margaret S. M. McGregor in her letter under the heading "Increase in Scabies" (*Journal*, December 15, 1956, p. 1427), I should like to lend her suggestion provisional support. I have long doubted the allergic origin of these itching papular or vesicular eruptions on children, which so soon become secondarily infected, and which are popularly called "heat spots." After one or two attendances I have frequently prescribed the benzyl benzoate rub and sterilization of clothing, with the result that the case often is not seen again. Like Dr. McGregor, I have lacked time and opportunity—and perhaps skill—to search effectively for an acarus, but would be interested to learn if our dermatological colleagues can come to our assistance or give us clinical support.—I am, etc.,

Wembley, Middlesex. H. M. HARRIS.

SIR,—I have read with great interest Dr. Margaret S. M. McGregor's letter (*Journal*, December 15, p. 1427). Like her, I am seeing a great number of cases of so-called "heat spots," and I have never been able to satisfy myself that this is an allergic condition. I have never seen an acarus in any of the cases either, and I am left with the quite definite idea that the lesions are due to flea bites. All the criteria enumerated by Dr. McGregor fit in with this assumption, and so does the success which pretty well invariably attends appropriate measures of disinfestation as long as they remain effective.—I am, etc.,

Abertillery, Mon. K. TRIGER.

Hypnosis in Casualty Department

SIR,—Dr. L. Goldie's success rate in the use of hypnosis is indeed remarkable (*Journal*, December 8, 1956, p. 1340). Most figures quoted by authors show a much lower percentage of people hypnotizable to a depth sufficient to remove pain, and then usually only after several sessions. It seems likely that many of Dr. Goldie's patients might have tolerated the surgical procedure involved, even without being hypnotized, especially some of the suturing cases.

I would venture to suggest that hypnosis is not such a useful weapon in a casualty department because of its unpredictability and the excellence, in most cases, of local or general anaesthesia (this does not apply in a known good hypnotic subject). However, Dr. Goldie's paper certainly shows the advantages of a sympathetic and considerate approach and the power of suggestion in all patients. I put it that hypnosis is an excellent weapon in the right cases only. I have found, by and large, that this is not usually for symptom removal or control, but for facilitating psychotherapy. When I have used hypnosis in a neurotic or psychosomatic illness, the time taken to get improvement or cure is markedly reduced in comparison with more recognized procedures, and it is in this type of case that hypnosis will eventually find its true place.—I am, etc.,

Wembley Park, Middlesex. B. R. FINLAY.

Allergic Response to Hyaluronidase

SIR,—The routine administration of ergometrine with crowning of the head or birth of the anterior shoulder is becoming an accepted procedure in many maternity institutions. To facilitate its rapid absorption when given by the intramuscular route, it is often given with hyaluronidase. As this drug is generally accepted as safe and non-toxic, it was regarded as worth while to record a case which showed a severe allergic reaction to it.

A primigravida, aged 21, gave a history of asthma since the age of 15 years, attacks being brought on by excitement, change of climate and house dust. The antenatal period was quite normal. Labour commenced at 38 weeks' gestation on September 2, 1956, the first stage lasting 10½ hours. After one and a quarter hours in the second stage no further progress occurred, and deep transverse arrest of the head was diagnosed. A pudendal nerve block, using 30 ml. of a 1% lignocaine solution, was done. An episiotomy was made, the position of the head manually corrected, and an easy forceps delivery performed: 0.5 mg. ergometrine mixed with 1,000 Benger units "hyalase" was injected intramuscularly when the head was crowned. Three minutes after the baby was born the complete placenta and membranes were expelled with a blood loss of only 4 oz. (114 ml.). While the episiotomy was being sutured the patient became restless and complained of itching of the scalp. An urticarial rash appeared on her hands and wrists, and soon became generalized. At the same time a typical attack of asthma supervened: 8 minims (0.5 ml.) 1:1,000 adrenaline intramuscularly, followed by 100 ml. calcium gluconate intravenously, produced no effect. In the meantime the pulse at the wrist became impalpable and no blood pressure could be recorded. Methylamphetamine, 15 mg. intravenously and 15 mg. intramuscularly, caused a temporary improvement and the systolic pressure rose to 80 mm. mercury, but this lasted for a few minutes only, after which it became again unrecordable. A noradrenaline drip using 1 mg. "levophed" per 250 ml. 5% dextrose solution was commenced and the drip rate adjusted until the blood pressure was maintained at 100-120/80-90. The rash and bronchospasm gradually disappeared, but it was necessary to continue the noradrenaline drip for 19 hours before the blood pressure could be maintained at a safe level. Apart from a rapid pulse for a few days, the patient made a good recovery and the puerperium was entirely normal.

Subsequent intradermal sensitivity tests were carried out with lignocaine, ergometrine, and hyalase; only the hyalase showed a well-marked response. There is no doubt that this patient's severe allergic response was to the hyalase. Benger Laboratories Ltd. state that no such case has previously been reported to them.—I am, etc.,

Greenford, Middlesex. P. J. JOUBERT.

Glycyrrhetinic Acid

SIR,—As a sufferer for a number of years from psoriasis I have been very interested in the correspondence from many learned and experienced dermatologists on the relative values of hydrocortisone and glycyrrhetinic acid. I feel, therefore, that as a patient I might be qualified to express my own opinion based on personal experience. Over the past three years I have had prescribed for me the whole gamut of dermatological pharmacy from hydrocortisone to inert base, and I can honestly affirm that glycyrrhetinic acid ("biosone" G.A greasy) gives more relief than any other. While with this condition one does not expect a cure, one appreciates the relief from nocturnal irritation and the improvement of unsightly patches of epidermis. Surely this type of result warrants further trial, especially when the relative cost is so small compared with other much-boosted preparations.—I am, etc.,

London, W.1 VICTOR GOLDMAN.

Treatment of Acute Appendicitis

SIR,—Mr. Eric Coldrey's article (*Journal*, December 22, 1956, p. 1458) will comfort all who work alone without the resources of a general hospital immediately behind them. I cannot recall having read such an authoritative pronouncement on the subject. The teaching hitherto seems to have been that conservative treatment may succeed, but is more risky, and that all must be set for going in at any moment. So ingrained is the notion that appendicitis is a dangerous emergency that both doctors and patients suffer much anxiety, and many of the deaths are due to operation at the wrong time. A surgeon knows that if death follows operation not a word will be said. If he has not operated, and death follows, he may incur odium and possibly a claim for damages.

About two years ago in the Australian medical press applications were invited for the posts of M.O. to the research parties on Heard Island and Macquarie Island. A condition of appointment was that the officer selected should have his appendix removed before he went, if he had not lost it already. The last M.O. on Heard Island had developed appendicitis and a cruiser was sent to take him off. The Australian Government did not wish to be stung so expensively again. I seem to remember that during the war a directive was issued by the Admiralty that under no circumstances was appendicectomy to be attempted at

sea—the results of keen young chaps operating in destroyers had been so bad. During eight years in big ships (750–1,500 souls aboard) I have had about 40–50 cases at sea and have not operated on any of them. Often there have been reproachful looks from the nursing sister, and even indirect hints from the captain: "Will you want me to stop the ship, doctor?" None have died or had serious trouble.

But is this conservative policy right in English hospital practice? I should say no, for the following reasons: (1) A case treated thus will occupy an expensive hospital bed longer and demand more total nursing attention. (2) It should be admitted later for interval appendicectomy; again a hospital bed occupied and again work interrupted. (3) In many who do not undergo interval appendicectomy recurrence is likely, perhaps at a most inconvenient time and place. I suggest the time has come for dogmatic teaching in the schools: (1) in general hospitals, operate at once, if safe; (2) anywhere else, do not operate. It is an amusing speculation whether appendicectomy may not become, like circumcision, a victim of the National Health Service.—I am, etc.,

Bristol. GEORGE L. ALEXANDER.

Rupture of Hind-waters and Haemorrhage

SIR,—In this country rupture of the hind-waters by means of a curved cannula has been popular for some years, in preference to rupture of the fore-waters. The main object of high rupture of the membranes as against low rupture seems to be the preservation of the fore-waters as a barrier against intrauterine infection.[1–3] A series of 500 inductions by low rupture of the membranes was carried out some years ago at Bromley Hospital. This series provided no evidence that high rupture is preferable to low rupture from the point of view of prevention of genital infection. A detailed analysis of the series is at present being made.

I have read with interest the article by Drs. J. K. Russell, D. F. Smith, and R. Yule (*Journal*, December 15, p. 1414). It draws attention to a serious complication caused by rupture of the hind-waters, resulting in the death of the baby in two cases. Evans[4] and Blaikley[5] mention a case where high rupture of the membranes caused separation of the placenta and severe bleeding. Caesarean section was carried out and a dead baby was delivered. The mother died from haemorrhage and shock.

As a procedure rupture of the fore-waters never fails, and, if carried out with due care, the occurrence of cord prolapse should be very rare. Even if the liquor is scanty, as in some cases of postmaturity, the presence of a fœtal hair in an artery forceps proves that the membranes have been ruptured. I have watched others introduce the cannula repeatedly in different directions in this type of case in an attempt to draw liquor until, finally, a flow of blood indicated that the placenta had been separated. Whatever the objections may be to low rupture of the membranes as a method of induction of labour, it does not involve such risks as those described by Russell *et al.*—I am, etc.,

Cambridge. BRUCE ETON.

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Smoking and Lung Cancer

SIR,—In the light of modern psychology no scientific meaning attaches to such a proposition as: "Smoking is a cause of cancer." Modern science has required a shift in our entire conception of causation from that of a linear series of "links in a chain" to that of systems within systems. The personality and behaviour of a human being (as of any organic body) is a unitary response to an indivisible unity of dynamic conditions of which that organism is a member. These conditions are primarily social. What we doctors describe as a "cause" is the impact of a gradient or differential of action upon the whole behaving organism. It is not this or that factor operating in isolation but its dynamic relation to all the other conditioning factors that determines what the effect will be. For example, a person might enjoy excellent health if he smoked 40 cigarettes a day, provided his life was relatively free from other sources of stress, whereas another individual who smoked only 20 a day but suffered from severe stresses from other sources might develop a carcinoma. In the latter case the smaller quantity has raised a differential of stress to the required degree.

It should be understood that it is of little value to tell adults to change their habits. Habits are learned responses of the personality as a whole to socially conditioned goals. They are modes of behaviour whereby the individual relieves socially determined stresses. In order to abandon a habit an individual must perceive a different goal that creates a more powerful tension from within his personality. It is obvious that habits are being acquired as the personality is being shaped in the earliest years. As to the mass neural tension of our day, its source is to be found in an education based upon a mythology of drill and punishment.—I am, etc.,

Perranporth, Cornwall. D. JACKSON.

SIR,—In view of the fact that my letter (*Journal*, December 15, 1956, p. 1426) has attracted the attention of the lay press, and that certain ill-founded conclusions may be drawn from it, may I explain that my purpose in writing was not to defend smoking, nor was it an attempt to contradict the evidence compiled. It was in the hope of hearing the views of other doctors, notably those who have experience of practice abroad, that I wrote in the first instance. I should like to learn how wide has been the field of investigation in terms of peoples, their environment, smoking habits, etc.,—

London, E.9. C. J. G. FRANKLIN.

SIR,—Is there any real use in a large-scale investigation to help the hardened smoker to overcome his addiction, as one of your correspondents suggests (Dr. D. G. Ismay, *Journal*, December 15, 1956, p. 1427)? In my opinion there is only one way, and that is to make up one's mind to give up the habit and to abide by the decision. I did so 10 years ago and I know how hard it is.

I have no wish to appear to be placing myself on a pedestal, for, of course, many have gone throught the same experience.—I am, etc.,

Sherborne, Dorset. B. PICKERING PICK.

N-Acetyl-para-aminophenol as an Analgesic

SIR,—In the light of Mr. John Hajnal's letter (*Journal*, December 15, 1956, p. 1430) and of other comments which have reached us, the analysis of the clinical trial of N.A.P.A.P. ("panadol") made by two of us (Newton and Tanner, *Journal*, November 10, p. 1096) requires some further discussion. The point at issue is raised in the latter part of our article, where we claimed to establish that, while the majority of patients preferred tab. codein. co. rather than N.A.P.A.P. as an analgesic, a significant number consistently were of the opinion that N.A.P.A.P. was more effective for them. In statistical language, we claimed to have demonstrated a significant drug-patient interaction.

As Mr. Hajnal states, the χ^2 in our table II has only 1 degree of freedom. It should also, however, be based on numbers of subjects, rather than numbers of preferences, so that all the figures in the table, including χ^2, should be halved. χ^2 is thus 4.8, which, for 1 degree of freedom, gives a probability of 0.04. This is still slightly incorrect, however. In a discussion submitted for publication to *Biometrics* and circulated in manuscript with reprints of our article we showed that the orthodox χ^2 test is unreliable in this case owing to the small expectations. With the results in our table the exact treatment happens to give very much the same level of significance and thus leads to the same result. It was because of this that we refrained from writing to you before.

directed towards the home or animal contacts there or in the neighbourhood.—I am, etc.,

Newcastle-upon-Tyne, 2. R. MASON BOLAM.

SIR,—Although I have never marshalled my facts as has Dr. Margaret S. M. McGregor in her letter under the heading "Increase in Scabies" (*Journal*, December 15, 1956, p. 1427), I should like to lend her suggestion provisional support. I have long doubted the allergic origin of these itching papular or vesicular eruptions on children, which so soon become secondarily infected, and which are popularly called "heat spots." After one or two attendances I have frequently prescribed the benzyl benzoate rub and sterilization of clothing, with the result that the case often is not seen again. Like Dr. McGregor, I have lacked time and opportunity—and perhaps skill—to search effectively for an acarus, but would be interested to learn if our dermatological colleagues can come to our assistance or give us clinical support.—I am, etc.,

Wembley, Middlesex. H. M. HARRIS.

SIR,—I have read with great interest Dr. Margaret S. M. McGregor's letter (*Journal*, December 15, p. 1427). Like her, I am seeing a great number of cases of so-called "heat spots," and I have never been able to satisfy myself that this is an allergic condition. I have never seen an acarus in any of the cases either, and I am left with the quite definite idea that the lesions are due to flea bites. All the criteria enumerated by Dr. McGregor fit in with this assumption, and so does the success which pretty well invariably attends appropriate measures of disinfestation as long as they remain effective.—I am, etc.,

Abertillery, Mon. K. TRIGER.

Hypnosis in Casualty Department

SIR,—Dr. L. Goldie's success rate in the use of hypnosis is indeed remarkable (*Journal*, December 8, 1956, p. 1340). Most figures quoted by authors show a much lower percentage of people hypnotizable to a depth sufficient to remove pain, and then usually only after several sessions. It seems likely that many of Dr. Goldie's patients might have tolerated the surgical procedure involved, even without being hypnotized, especially some of the suturing cases.

I would venture to suggest that hypnosis is not such a useful weapon in a casualty department because of its unpredictability and the excellence, in most cases, of local or general anaesthesia (this does not apply in a known good hypnotic subject). However, Dr. Goldie's paper certainly shows the advantages of a sympathetic and considerate approach and the power of suggestion in all patients. I put it that hypnosis is an excellent weapon in the right cases only. I have found, by and large, that this is not usually for symptom removal or control, but for facilitating psychotherapy. When I have used hypnosis in a neurotic or psychosomatic illness, the time taken to get improvement or cure is markedly reduced in comparison with more recognized procedures, and it is in this type of case that hypnosis will eventually find its true place.—I am, etc.,

Wembley Park, Middlesex. B. R. FINLAY.

Allergic Response to Hyaluronidase

SIR,—The routine administration of ergometrine with crowning of the head or birth of the anterior shoulder is becoming an accepted procedure in many maternity institutions. To facilitate its rapid absorption when given by the intramuscular route, it is often given with hyaluronidase. As this drug is generally accepted as safe and non-toxic, it was regarded as worth while to record a case which showed a severe allergic reaction to it.

A primigravida, aged 21, gave a history of asthma since the age of 15 years, attacks being brought on by excitement, change of climate and house dust. The antenatal period was quite normal. Labour commenced at 38 weeks' gestation on September 2, 1956, the first stage lasting 10½ hours. After one and a quarter hours in the second stage no further progress occurred and deep transverse arrest of the head was diagnosed. A pudendal nerve block, using 30 ml. of a 1% lignocaine solution, was done. An episiotomy was made, the position of the head manually corrected, and an easy forceps delivery performed: 0.5 mg. ergometrine mixed with 1,000 Benger units "hyalase" was injected intramuscularly when the head was crowned. Three minutes after the baby was born the complete placenta and membranes were expelled with a blood loss of only 4 oz. (114 ml.). While the episiotomy was being sutured the patient became restless and complained of itching of the scalp. An urticarial rash appeared on her hands and wrists, and soon became generalized. At the same time a typical attack of asthma supervened; 8 minims (0.5 ml.) 1:1,000 adrenaline intramuscularly, followed by 100 ml. calcium gluconate intravenously, produced no effect. In the meantime the pulse at the wrist became impalpable and no blood pressure could be recorded. Methylamphetamine, 15 mg. intravenously and 15 mg. intramuscularly, caused a temporary improvement and the systolic pressure rose to 80 mm. mercury, but this lasted for a few minutes only, after which it became again unrecordable. A noradrenaline drip using 1 mg. "levophed" per 250 ml. 5% dextrose solution was commenced and the drip rate adjusted until the blood pressure was maintained at 100–120/80–90. The rash and bronchospasm gradually disappeared, but it was necessary to continue the noradrenaline drip for 19 hours before the blood pressure could be maintained at a safe level. Apart from a rapid pulse for a few days, the patient made a good recovery and the puerperium was entirely normal.

Subsequent intradermal sensitivity tests were carried out with lignocaine, ergometrine, and hyalase; only the hyalase showed a well-marked response. There is no doubt that this patient's severe allergic response was to the hyalase. Benger Laboratories Ltd. state that no such case has previously been reported to them.—I am, etc.,

Greenford, Middlesex. P. J. JOUBERT.

Glycyrrhetinic Acid

SIR,—As a sufferer for a number of years from psoriasis I have been very interested in the correspondence from many learned and experienced dermatologists on the relative values of hydrocortisone and glycyrrhetinic acid. I feel, therefore, that as a patient I might be qualified to express my own opinion based on personal experience. Over the past three years I have had prescribed for me the whole gamut of dermatological pharmacy from hydrocortisone to inert base, and I can honestly affirm that glycyrrhetinic acid ("biosone" G.A greasy) gives more relief than any other. While with this condition one does not expect a cure, one appreciates the relief from nocturnal irritation and the improvement of unsightly patches of epidermis. Surely this type of result warrants further trial, especially when the relative cost is so small compared with other much-boosted preparations.—I am, etc.,

London, W.1 VICTOR GOLDMAN.

Treatment of Acute Appendicitis

SIR,—Mr. Eric Coldrey's article (*Journal*, December 22, 1956, p. 1458) will comfort all who work alone without the resources of a general hospital immediately behind them. I cannot recall having read such an authoritative pronouncement on the subject. The teaching hitherto seems to have been that conservative treatment may succeed, but is more risky, and that all must be set for going in at any moment. So ingrained is the notion that appendicitis is a dangerous emergency that both doctors and patients suffer much anxiety, and many of the deaths are due to operation at the wrong time. A surgeon knows that if death follows operation not a word will be said. If he has not operated, and death follows, he may incur odium and possibly a claim for damages.

About two years ago in the Australian medical press applications were invited for the posts of M.O. to the research parties on Heard Island and Macquarie Island. A condition of appointment was that the officer selected should have his appendix removed before he went, if he had not lost it already. The last M.O. on Heard Island had developed appendicitis and a cruiser was sent to take him off. The Australian Government did not wish to be doing so expensively again. I seem to remember that during the war a directive was issued by the Admiralty that under no circumstances was appendicectomy to be attempted at

sea—the results of keen young chaps operating in destroyers had been so bad. During eight years in big ships (750–1,500 souls aboard) I have had about 40–50 cases at sea and have not operated on any of them. Often there have been reproachful looks from the nursing sister, and even indirect hints from the captain: "Will you want me to stop the ship, doctor?" None have died or had serious trouble.

But is this conservative policy right in English hospital practice? I should say no, for the following reasons: (1) A case treated thus will occupy an expensive hospital bed longer and demand more total nursing attention. (2) It should be admitted later for interval appendicectomy; again a hospital bed occupied and again work interrupted. (3) In many who do not undergo interval appendicectomy recurrence is likely, perhaps at a most inconvenient time and place. I suggest the time has come for dogmatic teaching in the schools: (1) in general hospitals, operate at once, if safe; (2) anywhere else, do not operate. It is an amusing speculation whether appendicectomy may not become, like circumcision, a victim of the National Health Service.—I am, etc.,

Bristol. GEORGE L. ALEXANDER.

Rupture of Hind-waters and Haemorrhage

SIR,—In this country rupture of the hind-waters by means of a curved cannula has been popular for some years, in preference to rupture of the fore-waters. The main object of high rupture of the membranes as against low rupture seems to be the preservation of the fore-waters as a barrier against intrauterine infection.[1–3] A series of 500 inductions by low rupture of the membranes was carried out some years ago at Bromley Hospital. This series provided no evidence that high rupture is preferable to low rupture from the point of view of prevention of genital infection. A detailed analysis of the series is at present being made.

I have read with interest the article by Drs. J. K. Russell, D. F. Smith, and R. Yule (*Journal*, December 15, p. 1414). It draws attention to a serious complication caused by rupture of the hind-waters, resulting in the death of the baby in two cases. Evans[4] and Blaikley[5] mention a case where high rupture of the membranes caused separation of the placenta and severe bleeding. Caesarean section was carried out and a dead baby was delivered. The mother died from haemorrhage and shock.

As a procedure rupture of the fore-waters never fails, and, if carried out with due care, the occurrence of cord prolapse should be very rare. Even if the liquor is scanty, as in some cases of postmaturity, the presence of a fœtal hair in an artery forceps proves that the membranes have been ruptured. I have watched others introduce the cannula repeatedly in different directions in this type of case in an attempt to draw liquor until, finally, a flow of blood indicated that the placenta had been separated. Whatever the objections may be to low rupture of the membranes as a method of induction of labour, it does not involve such risks as those described by Russell *et al.*—I am, etc.,

Cambridge. BRUCE ETON.

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2 —— and Thompson, D. J., *J. Obstet. Gynaec. Brit. Emp.*, 1937, **44**, 480.
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Smoking and Lung Cancer

SIR,—In the light of modern psychology no scientific meaning attaches to such a proposition as: "Smoking is a cause of cancer." Modern science has required a shift in our entire conception of causation from that of a linear series of "links in a chain" to that of systems within systems. The personality and behaviour of a human being (as of any organic body) is a unitary response to an indivisible unity of dynamic conditions of which that organism is a member. These conditions are primarily social. What we doctors describe as a "cause" is the impact of a gradient or differential of action upon the whole behaving organism. It is not this or that factor operating in isolation but its dynamic relation to all the other conditioning factors that determines what the effect will be. For example, a person might enjoy excellent health if he smoked 40 cigarettes a day, provided his life was relatively free from other sources of stress, whereas another individual who smoked only 20 a day but suffered from severe stresses from other sources might develop a carcinoma. In the latter case the smaller quantity has raised a differential of stress to the required degree.

It should be understood that it is of little value to tell adults to change their habits. Habits are learned responses of the personality as a whole to socially conditioned goals. They are modes of behaviour whereby the individual relieves socially determined stresses. In order to abandon a habit an individual must perceive a different goal that creates a more powerful tension from within his personality. It is obvious that habits are being acquired as the personality is being shaped in the earliest years. As to the mass neural tension of our day, its source is to be found in an education based upon a mythology of drill and punishment.—I am, etc.,

Perranporth, Cornwall. D. JACKSON.

SIR,—In view of the fact that my letter (*Journal*, December 15, 1956, p. 1426) has attracted the attention of the lay press, and that certain ill-founded conclusions may be drawn from it, may I explain that my purpose in writing was not to defend smoking, nor was it an attempt to contradict the evidence compiled. It was in the hope of hearing the views of other doctors, notably those who have experience of practice abroad, that I wrote in the first instance. I should like to learn how wide has been the field of investigation in terms of peoples, their environment, smoking habits, etc.,—

London, E.9. C. J. G. FRANKLIN.

SIR,—Is there any real use in a large-scale investigation to help the hardened smoker to overcome his addiction, as one of your correspondents suggests (Dr. D. G. Ismay, *Journal*, December 15, 1956, p. 1427)? In my opinion there is only one way, and that is to make up one's mind to give up the habit and to abide by the decision. I did so 10 years ago and I know how hard it is.

I have no wish to appear to be placing myself on a pedestal, for, of course, many have gone throught the same experience.—I am, etc.,

Sherborne, Dorset. B. PICKERING PICK.

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Mr. Hajnal's criticism of our test goes beyond this, since he maintains that we should have included, as giving "mixed" responses, those patients who failed to give two clear preferences. We feel, however, the questions answerable by reference to the "don't knows" and to the "mixed" are different. A full treatment of the data would certainly have classified each of the two responses of each subject as a preference for N.A.P.A.P., a preference for codein. co., or an inability to decide between the two. However, the main purposes of the trial were (1) to see whether preferences for N.A.P.A.P. were expressed more, or less, frequently than those for codein. co., and (2) to see whether there was any evidence that the relative frequency with which these preferences were made varied from one subject to another. It is a different question that the "don't knows" provide evidence about—that is, the frequency with which subjects are able to make up their minds which of these two drugs they prefer. It is true that the subjects who gave a clear preference on *one* of the two occasions provide some evidence on (1), and it may be worth recording that, of these single preferences, 7 were in favour of codein. co. and 1 in favour of N.A.P.A.P.; but in view of the clear evidence on (1) provided by the double preferences these figures were not presented in the paper. Subjects failing to give two clear preferences provide no information on (2), which is really the point at issue.

If we assume for the sake of discussion that a significant interaction has been established, it remains to consider how the data should be interpreted. The null hypothesis under test is that each patient who is willing to make two decisions has a certain probability p of expressing a preference for (say) codeine on any one occasion, and that p is constant from one patient to another; this hypothesis (which, when explicitly stated, is perhaps not very plausible) we assume to be rejected by the data. As an alternative hypothesis, we may consider the probability distribution of p over the population of patients from which our sample was drawn. Various theoretical forms for this distribution suggest themselves; if we assume a *beta* distribution, we can estimate that about 20% of the population have values of p less than one-half—that is, prefer N.A.P.A.P. more often than not—though, on the small numbers involved, this estimate is doubtless very inaccurate. Mr. Hajnal's alternative suggestion that two groups of patients existed, one with a stable disease consistently preferring codein. co., the other making random responses under the influence of variation in their disease and other factors, amounts to assuming a distribution concentrated at the two points $p=1.0$ and $p=0.5$. These two forms of distribution have actually been proposed for use in inspection problems in industry, problems for which sequential techniques were first developed.[1,2] The point is of more than theoretical interest, since the sampling scheme can be improved if the form of the distribution is known.

It is clearly impossible in practice to distinguish the two alternative forms of distribution from the present limited amount of data, and we must therefore concede that we have not established beyond any possible doubt the superiority of N.A.P.A.P. for a minority of patients. More importantly, the distinction between different forms of distribution is theoretically impossible. Any extension of the rejected null hypothesis uses up the one remaining degree of freedom and leaves nothing over to test goodness of fit. Thus our assumption of patient-drug interaction is not based on the excess of "N.A.P.A.P.–N.A.P.A.P." responses alone, but is intended as an explanation of the whole body of data once the original null hypothesis has been rejected. As it seems impossible to get any further with data of the present kind, it remains to consider improved methods of investigating patients' preferences for alternative treatments. Some improvement might result from using a 5-point scale of preference, asking the patients whether one drug was much better, better, the same, worse, or much worse than the other. But probably the most important step would be the inclusion of a placebo, a course we originally rejected on the grounds that patients would give unreliable responses if asked to compare as many as three weeks at a time. The alternative design of having three two-weekly periods instead of two we also rejected, on the grounds that the longer the trial lasted the more it would be upset by variations in the disease process. Mr. Hajnal's valuable discussion shows how very carefully one must try to reconcile the often conflicting demands of practical and theoretical requirements in work of this kind.

Another correspondent has drawn our attention to the fact that our labelling of the bottles with + and − signs would in theory have enabled a patient to spot which drug on the second comparison was the same as his preferred drug on the first. This could have led to spurious consistency of choice. In practice we do not believe this occurred, because the patients only had one bottle at a time in their possession (the bottles were handed back at the end of each week), and because the + and − signs were typed in immediately after the number and the − sign was not obviously identifiable as such. We think it exceedingly unlikely that any patient recognized the nature or even existence of this code, particularly as they did not know two drugs were being compared and none even in fact inquired as to whether the bottles contained different preparations. However, we feel this is a very valid criticism of our procedure, and wish to draw attention to the fact that in any future trials of this sort the labels bearing the numbers should be torn off the bottle as the tablets are handed to the patient.—We are, etc.,

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London, S.E.1. D. R. L. NEWTON.
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Prevention of Tuberculosis

SIR,—As one would expect, Professor F. Heaf's article (*Journal*, December 15, 1956, p. 1383) is both refreshing and stimulating. In addition to recommending a miniature chest *x*-ray film for all patients attending hospital outpatients, I suggest that certain categories, such as diabetics and patients who have had gastrectomies for peptic ulcers, should have annual chest *x*-rays.

Professor Heaf has pointed out that the response in mass radiography surveys is better when some compensation is possible on discovery of the disease. I believe that the way to overcome the objection to compulsory chest *x*-rays for certain groups is to devise a scheme whereby old-age pensioners and those on National Assistance are offered annual chest *x*-rays. In return they would be assured of a liberal disability pension on the discovery of tuberculous disease, provided the appropriate medical advice was accepted and followed. We have profitably invested large sums of money in controlling tuberculosis in cattle. How much more profitable an investment, both in terms of hard cash and human happiness, would it be if we could control the pool of infectious tuberculous cases in this country.—I am, etc.,

Bournemouth. D. J. AP SIMON.

Delayed Emptying of the Gastric Stump

SIR,—I have followed the correspondence on this subject with great interest, having encountered my share of the complication—this in spite of using plain clamps applied solely to the jejunal wall, as described by Mr. Harold Burge (*Journal*, December 15, 1956, p. 1428). I subscribe personally to the view of Mr. Maurice Lee (*Journal*, December 8, p. 1364) that this condition—and, for that matter, "vicious circle vomiting" after gastro-enterostomy—originates in a paralysis of the gastric muscle: that, in fact, it is a manifestation of a gastric ileus, which name I prefer to attach to this complication. I do not think it is necessary to invoke small-bowel paralysis to explain it. In any gastro-jejunostomy the piece of small intestine actually used in the anastomosis has had its muscle coats cut completely through and has, therefore, no propulsive power. This being the case, we are relying in these patients on gastric peristalsis to "inject" the contents of the stomach into the efferent loop. Paralysed gastric muscle will not only fail to do this but will allow a functioning afferent loop to pump its contents into an atonic stomach, whence they are vomited. Theories involving "oedema of the stoma" I cannot take seriously.

Like Mr. Burge, I have given a barium meal to a couple of my cases, with findings similar to his. On screening the patients, I was impressed by the way the gastric stump distended like a flaccid sac, and by the absence of any flicker of peristalsis in it while it was under observation. In one case a film taken four hours later showed no onward passage of barium. Most of my cases (like most cases of

A H

Looking at two aspects—

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Prevention of Tuberculosis

SIR,—As one would expect, Professor F. Heaf's article (*Journal*, December 15, 1956, p. 1383) is both refreshing and stimulating. In addition to recommending a miniature chest *x*-ray film for all patients attending hospital outpatients, I suggest that certain categories, such as diabetics and patients who have had gastrectomies for peptic ulcers, should have annual chest *x*-rays.

Professor Heaf has pointed out that the response in mass radiography surveys is better when some compensation is possible on discovery of the disease. I believe that the way to overcome the objection to compulsory chest *x*-rays for certain groups is to devise a scheme whereby old-age pensioners and those on National Assistance are offered annual chest *x*-rays. In return they would be assured of a liberal disability pension on the discovery of tuberculous disease, provided the appropriate medical advice was accepted and followed. We have profitably invested large sums of money in controlling tuberculosis in cattle. How much more profitable an investment, both in terms of hard cash and human happiness, would it be if we could control the pool of infectious tuberculous cases in this country.—I am, etc.,

Bournemouth. D. J. AP SIMON.

Delayed Emptying of the Gastric Stump

SIR,—I have followed the correspondence on this subject with great interest, having encountered my share of the complication—this in spite of using plain clamps applied solely to the jejunal wall, as described by Mr. Harold Burge (*Journal*, December 15, 1956, p. 1428). I subscribe personally to the view of Mr. Maurice Lee (*Journal*, December 8, p. 1364) that this condition—and, for that matter, "vicious circle vomiting" after gastro-enterostomy—originates in a paralysis of the gastric muscle: that, in fact, it is a manifestation of a gastric ileus, which name I prefer to attach to this complication. I do not think it is necessary to invoke small-bowel paralysis to explain it. In any gastro-jejunostomy the piece of small intestine actually used in the anastomosis has had its muscle coats cut completely through and has, therefore, no propulsive power. This being the case, we are relying in these patients on gastric peristalsis to "inject" the contents of the stomach into the efferent loop. Paralysed gastric muscle will not only fail to do this but will allow a functioning afferent loop to pump its contents into an atonic stomach, whence they are vomited. Theories involving "oedema of the stoma" I cannot take seriously.

Like Mr. Burge, I have given a barium meal to a couple of my cases, with findings similar to his. On screening the patients, I was impressed by the way the gastric stump distended like a flaccid sac, and by the absence of any flicker of peristalsis in it while it was under observation. In one case a film taken four hours later showed no onward passage of barium. Most of my cases (like most cases of

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intestinal ileus) have been transient, settling down after about 48 hours' suction and intravenous fluid replacement. In about half a dozen, however, encountered during the past ten years the gastric retention has persisted much longer, for periods of 6–12 days—incidentally, with remarkably little deterioration in the patient's condition; one of these was a case of simple gastro-enterostomy. In these obstinate cases of retention, acting on the presumption of gastric ileus, I have used a posterior splanchnic block (Kappis technique) to abolish sympathetic activity. The results of this have been uniformly satisfactory. The usual effect has been to produce a rapid diminution in the volume of the aspirate, so that the tube could be discarded within 24 hours. In one case the result was more dramatic; this patient, after over a week's retention, complained bitterly of hunger within an hour of induction of the block, and had no difficulty in keeping down the light meal upon which he insisted. I think, therefore, that this simple procedure should be given a trial before resorting to further surgery such as jejunostomy. It would be interesting to have the time and facilities to test it radiologically.

Finally, there has been considerable discussion on gastric intubation in this correspondence, and I am afraid I must confess that during the past year I have given up using it in any form, even in gastric operations when a vagotomy has been performed. When intubating routinely I was impressed by the small quantities aspirated, especially after Billroth I gastrectomies. Since abandoning it, it is only occasionally that I have had to have a tube passed in the post-operative period; most patients vomit not at all or very little. I think that they cough better for the absence of the tube, and that both patients and nursing staff seem less harassed without it.—I am, etc.,

Brighton. KEITH POWELL.

Pregnancy Sickness

SIR,—Dr. Doreen S. Ball should speak for herself alone when she says, "I regarded these cases, as most doctors seem to, as . . . psychological" (*Journal*, December 22, 1956, p. 1487). Surely most obstetricians nowadays realize and teach that vomiting of pregnancy is due to a combination of several factors such as the distension of the gravid uterus with the products of conception, and the considerable hormonal upset that takes place in a woman at that time, to mention only two. Another small point arises later in her letter in which one infers that her own vomiting of pregnancy could have been aggravated by getting up in the morning after 14 hours' fasting. As far as I know, dry toast and tea in bed as soon after awaking as possible is well known as a valuable deterrent of vomiting of pregnancy.—I am, etc.,

Winchester. P. G. CRONK.

SIR,—I was most interested to read the letter by Dr. Doreen S. Ball on her own experiences of pregnancy sickness (*Journal*, December 22, 1956, p. 1487). I have had two children and during both pregnancies also suffered from this a great deal.

During my first pregnancy I started to vomit six weeks after my last menstrual period. At that time my periods were irregular, and I did not then realize that I was pregnant. This vomiting continued several times daily, and often at night, for two to three months; a feeling of nausea persisted throughout pregnancy and disappeared completely immediately after delivery. During my second pregnancy I again started to vomit six weeks exactly after my last menstrual period. This time I was admitted to hospital with hyperemesis. At about three months I had a threatened abortion. The day preceding this I did not have any nausea or vomiting. The symptoms then continued as before. The only treatment which had any effect was the taking of small meals every two hours. Nausea again persisted throughout pregnancy and disappeared on delivery.

I was treated, quite obviously, mainly as a psychological problem. This I am perfectly convinced I was not. Why should I suddenly change from a normal individual to a "psychological problem," in one instance even before I knew I was pregnant? I have no criticism whatsoever to make of my treatment. I also, before being pregnant, considered the cause of hyperemesis to be psychological, because that is what I had been taught to believe. Since these experiences I now consider that the cause of hyperemesis can be hormonal in origin for the following reasons: (1) The sudden onset of vomiting, and the time of onset in both cases being exactly the same; (2) absence of vomiting and nausea previous to the threatened abortion; (3) sudden and complete disappearance of symptoms following delivery.

The above could quite obviously be explained in some other way, but, until I am offered a more tenable theory than that usually given, hormones, in my case also, are to blame.—I am, etc.,

Marple, Cheshire. MURIEL DALBY.

Diagnosis of Early Pregnancy

SIR,—In calculating that the average general practitioner sees some 23 pregnancies per year, Mr. D. G. Wilson Clyne (*Journal*, December 22, 1956, p. 1489) assumes that there are 460,000 births per annum in the United Kingdom. In fact, there were 673,651 live births in 1954.[1] Allowing for stillbirths and abortions, the number of pregnancies may well have been over 800,000. Some "general practitioners" have limited lists and attend only staffs of hospitals. Pregnancies are spread among the practices of true general practitioners at an average of about 47 each, of which about 40 reach viability. There is ample maternity work in the average general practice. It is, perhaps, because this fact has been misrepresented so often that Mr. Wilson Clyne did not realize that there was a fairly gross error in his calculations.—I am, etc.,

Hucclecote, Gloucester IVOR COOKSON.

REFERENCE

[1] *British Medical Journal*, 1956, **1**, 1309.

SIR,—I read with great interest the letter of so distinguished a gynaecologist as Mr. D. G. Wilson Clyne, published in your issue of December 22, 1956 (p. 1489), and commenting on my letter in the *Journal* of November 10 (p. 1118). Statistics have been likened to bikinis, in that they reveal matters of interest but conceal vital parts. There are many general practitioners with a large proportion of young patients who see many more than twenty-three pregnancies per year, and I am one of them. Therapeutic abortion is an exceedingly controversial subject, and I propose to spare the Editor of the *Journal* a protracted correspondence on the subject.—I am, etc.,

Ruislip. T. DAVID LAMBERT.

Bancroftian Filariasis Simulating Lumbar Disk Lesions

SIR,—Apart from symptoms of lymphangitis, funiculitis and orchitis, and fever, filariasis produces generalized aching pains, the latter being a common mode of presentation on Niue Island, where the entire population takes a single 50-mg. tablet of diethylcarbamazine ("hetrazan") every month. This scheme of mass dosage has not only a very definite suppressive action but also indicates, by producing aching pains, a considerable number of positive cases.

Another interesting symptom, unrelated to the diethylcarbamazine mass therapy, is not uncommon—namely, the sudden onset of very severe pain simulating a lumbar disk lesion, and crippling in its intensity. The pain is referred to the ankle of the affected side, and there is a point of tenderness one inch (2.5 cm.) from the midline at the level of the second or third lumbar spinous process. There is no appreciable depression of the knee jerk or tendo-Achillis jerk, and no fever. Blood examination invariably shows numbers of microfilariae, and treatment by diethylcarbamazine 50 mg. three times a day produces a somewhat dramatic alleviation of symptoms within 24 hours and a negative blood after seven days. I wonder if any other readers have come across this distressing variety of filariasis.—I am, etc.,

Niue, S. Pacific. E. J. B. SIMPSON.

Obituary

W. G. BARNARD, C.B.E., F.R.C.P.

Professor W. G. Barnard, professor of pathology at St. Thomas's Hospital and dean of the medical school, died at the hospital on December 20, 1956. He was 64 years of age.

William George Barnard was born at Tangier, Morocco, on December 9, 1892, the second son of a missionary, Mr. E. U. Barnard, of Bath. He was a medical student at the London Hospital at the outbreak of the first world war, and for two years he served in the Royal Field Artillery in France. Gazetted out of the Army in 1917, he returned to the London Hospital and qualified M.R.C.S., L.R.C.P. in 1920. He captained the hospital's Rugby fifteen for two years, playing full-back, and after he had given up playing he took to refereeing. Among the junior appointments he held at the London were those of house-surgeon, pathological assistant, and junior assistant director of the pathological institute. From 1923 to 1931 he was pathologist to University College Hospital and lecturer in morbid anatomy and curator of the museum in the medical school. In 1927 he went to Freiburg-im-Breisgau for six months to work with the late Professor Ludwig Aschoff. Becoming consultant histologist to the London County Council in 1931, he was also appointed pathologist in charge of the council's Central Histological Laboratory at the Archway Hospital. Professor Barnard was appointed to the chair of pathology at St. Thomas's Hospital Medical School in 1939, and eight years later he succeeded the late Professor B. A. McSwiney as dean of the medical school. He held both appointments until his death, and he was also a member of the hospital's board of governors. Only last year he was appointed dean of the Faculty of Medicine in the University of London, and was to have held this appointment until 1958. He was also a member of the senate of the university and an examiner in pathology. In 1948 he was one of the vice-presidents of the Section of Pathology at the Annual Meeting of the B.M.A. Before the recent war he at times reported for this *Journal* the proceedings of the Section of Pathology and Bacteriology at the Annual Meetings of the B.M.A. His reports were models of accuracy and brevity, and he was punctilious in producing his "copy" on time. His book, *Elementary Pathological Histology*, was first published in 1928 (3rd edition in 1953), and he was the author of numerous papers on pathological subjects in specialist journals. His work on "oat-celled sarcoma" of the mediastinum, published in 1926, was an important study, for he was able to show that this tumour was a primary carcinoma of lung. As a teacher he was rather reserved, but as dean of St. Thomas's the students found him very approachable and a wise and kindly adviser. Certainly he spared no pains in his work for the medical school, which benefited from his administrative skill and wide professional experience.

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Barnard gave unstintingly of his time and energy to the Royal College of Physicians of London. Elected a Fellow in 1938, seven years after taking his Membership, he served on the council of the College from 1942 to 1944 and was then elected treasurer. In that capacity he proved to be a wise and prudent custodian of the College's financial affairs during a period of great difficulty. But Barnard was much more than a treasurer responsible for seeing that a proper balance was kept between income and expenditure. He was one of a small group advising the President of the College on a wide range of matters relating not only to the welfare of the College as an institution but also to problems affecting the profession as a whole, in particular, of course, those taking part in the Health Service as consultants and specialists. Most Fellows will recall at this time his genial and friendly presence at the College dinners, for Barnard was a connoisseur of food and wine, and he saw to it that for a modest price the Fellows could dine off good fare chosen with a rare discrimination. As a man he was forthright and determined in his views, and, if at first acquaintance he seemed to be a bit formidable in aspect, this impression soon disappeared in moments of relaxation which revealed a man who believed above all things in the good fellowship of professional colleagues.

A very capable administrator, Barnard gave much of his time to committee work, not only at his hospital and at the College but on other bodies as well. From 1948 to 1950 he was a member of the Central Health Services Council, and he had been a member of the Joint Consultants and Specialists Committee for seven years. He also served on the Staff Side of Committee "B" of the Medical Whitley Council from 1953 until his death. At one time he was honorary secretary of the Medico-Legal Society, and for the past year he had represented the Royal College of Physicians on the council of the Imperial Cancer Research Fund.

Professor Barnard married Miss Margaret R. Osler in 1930 and had one son, who has recently qualified at St. Thomas's Hospital.

A memorial service to Professor Barnard will be held in the chapel of St. Thomas's Hospital at 12 noon on Thursday, January 17.

ROBERT CARMICHAEL, M.B.

By the tragic death of Dr. Robert Carmichael at Leeds on December 19 scientific pathology and the Leeds medical school have lost prematurely a highly skilled and experienced member. He was 55 years of age. Many generations of medical students, as well as his colleagues, will long recall with warm affection his wide knowledge, sound teaching, transparent sincerity, and his humour and kindliness. A native of Falkirk, Robert Carmichael studied medicine at Edinburgh, graduating with honours in 1923. He won the Lesley gold medal and the Ettles scholarship, which enabled him to study for a time in Paris. On his return to Edinburgh he held appointments as assistant in pathology in the university and Royal Infirmary and as pathologist to the Royal Edinburgh Hospital for Mental and Nervous Disorders. Here he acquired a special taste for neuropathology and published his classical paper on the cerebral lesions in the chronic stage of epidemic encephalitis, a paper which was illustrated by beautiful water-colour drawings by his wife.

Appointed to the university department of pathology in Leeds, first as a lecturer and then as a senior lecturer, he spent the remainder of his life, over twenty years, there. Here he took a major share in teaching, and in the development, and especially the post-war revision and re-cataloguing, of the museum of pathology. He also participated as co-author in valuable papers on adenolymphoma of the salivary glands and on metaplastic changes in the cervix uteri. But his first love for neuropathology was maintained, as shown by his scholarly papers on cerebral aneurysms. His published work, however, excellent in quality though it was, was not the greater part of his contribution to the Leeds medical school and to British pathology. This was more intangible; it was his systematic thoroughness, his uncompromising love of accuracy and truth, and his scorn of slipshod, hurried, and untidy work of hand or mind. He himself refused to be a victim of routine mediocrity, and he set an example of care and precision for which his colleagues, students, and technicians alike will increasingly realize their imponderable indebtedness to him. Both in and outside Leeds his opinion on difficult histopathological problems was often sought, for his fellow pathologists well knew the value and maturity of his judgment. They will affectionately remember also his humorous twinkle, and the telling quip or epigram with which he often castigated ponderousness, pomposity, or insincerity. His work was his hobby and his happy home life his recreation.

For the last six months or more his friends anxiously saw his health decline; but, with a characteristic stoic cheerfulness, he carried on his work as though nothing was wrong until only a fortnight before his death. This was due to a retroperitoneal tumour, which there is no doubt he himself correctly diagnosed some weeks earlier and knew was irremediable. To the very last he smilingly sustained the courage of his friends, rather than they his. In some measure they share with his wife and daughter a unique sense of personal loss.—R. A. W.

F. S. F. writes: I first met Robert Carmichael when he came to Leeds as lecturer in the department of pathology in 1931. I was already in the same department as reader in chemical pathology, and we quickly became friends, and the friendship deepened with the passing of the years. His outstanding characteristics were his innate modesty, his friendliness, and his sense of humour, which had a delightful flavour all its own. He never really hankered after a chair; this was partly on account of the modesty I have referred to, but perhaps mainly because he disliked the idea of having what he considered his real work frequently interrupted by the claims of administration which must inevitably have been made on him as a professor. Yet on three occasions he was called on to assume charge of a department until a permanent incumbent should be appointed, and each time he gave unstinted time and effort to administrative duties, so that he was able to hand over his charge in a healthy, flourishing condition. His last period as acting head of a department lasted for a little over a year, and taxed his strength greatly, for it was during this period that the illness which was to cause his death first manifested itself. Characteristically he ignored it and remained at his post to within three weeks of his end, which he faced with truly amazing courage. He will be sadly missed in Leeds, not least by those who, like myself, have enjoyed the inestimable privilege of his friendship.

C. D. LOCHRANE, M.D., F.R.C.S.Ed., F.R.C.O.G.

Mr. C. D. Lochrane, formerly consultant surgeon to the Derbyshire Hospital for Women, died after a short illness on December 13, 1956, at Nairn. He was 75 years of age.

Born at Busby, near Glasgow, Charles Damien Lochrane was educated in Catholic seminaries in Scotland and England, and his medical training took place for the greater part at Edinburgh University, though his final year was spent at Glasgow University. He graduated M.B., Ch.B. at Edinburgh in 1904, and proceeded to the M.D., with high commendation, in 1908. After graduation he had the good fortune to serve as house-surgeon at Glasgow under Sir William Macewen, some of whose aphorisms he was fond of quoting and whose teaching made a great impression upon him. Later he held the appointment of senior resident medical officer at the Royal Infirmary. His elder brother, Frank, had been honorary surgeon to the Women's Hospital, Agard Street, Derby, and on his sudden death Charles was appointed honorary surgeon there in 1907, having in the previous year obtained the F.R.C.S. of Edinburgh. At the same time he took over his brother's general practice. The hospital at that time only had about 20 beds, but he worked assiduously to perfect his surgical technique, and built up a large outpatient department. His patients were devoted to him, and so were the nurses. By wide reading he kept himself well informed of progress in his specialty, and he himself wrote a number of papers, mainly on obstetric subjects.

During the first world war Lochrane was appointed surgeon in charge of the military hospital at Etwall, where he worked with his accustomed enthusiasm and where he had the happiness to meet his future wife. Shortly after the war he developed a renal calculus, from which, however, he made a good recovery, but he determined to give up his general practice and devote himself entirely to his specialty. Becoming a member of the old Midland and Western Counties Obstetrical and Gynaecological Society, he was shortly afterwards elected to its presidency. He was also a past-president of the Derby Medical Society. When the Women's Hospital at Derby became too small for its many patients Lochrane was mainly instrumental in building the new Derbyshire Hospital for Women, which opened in 1929 with 60 beds and which has so abundantly fulfilled the purpose for which it was built. Elected an original Fellow of the Royal College of Obstetricians and Gynaecologists in 1929, Lochrane filled many appointments, so that his time was very fully occupied. Besides being on the staff of the City Hospital in Derby, he was consultant obstetrician to the Derbyshire and Staffordshire county councils. From 1939 to 1947 he was president of the Derby Branch of the B.M.A. A few years ago he developed acute appendicitis, which was followed by complications. This illness obliged him to give up his life's work—for him a most difficult decision. He retired to Scotland, but unfortunately his health remained indifferent.

Charles Lochrane was a man steadfast of purpose but governed by his faith. Our deep sympathy is extended to his devoted wife and two sons.—J. C. G.

Dr. D. G. McROBBIE died at his home at Turriff, Aberdeenshire, on November 20, 1956, at the age of 41, after battling manfully with ill-health for some time. An Aberdonian born and bred, Donald Graham McRobbie was an able family doctor blessed with patience, determination, and courage. At Aberdeen Grammar School he developed a great interest and facility in the classics and an enduring love of good music, but later decided to

study medicine at Aberdeen University. After graduating M.B., Ch.B. in 1938 he held hospital appointments in Aberdeen and at the Royal Hospital for Sick Children, Glasgow. This work with children seemed to help him master a long-established shyness of manner, which he never quite lost. In 1941, immediately after joining the R.A.M.C., he found himself in the Middle East. During much of his four years of active service in the Western Desert, Sicily, and Europe he was regimental medical officer to the 5th battalion of the Black Watch Regiment. His constancy in battle earned him the admiration and affection of all his comrades-in-arms. A fellow officer wrote about him: "While the rest of us were scrabbling to get below ground level, Donald would go on treating the wounded." This strength and courage came not from a lack of fear but from overcoming fear. Devotion to duty often led him to neglect his own medical needs in attending to those of others. He adhered firmly to Christian principles throughout his life. After demobilization Dr. McRobbie worked as a house-surgeon at Aberdeen Royal Infirmary, and in 1946 took up general practice in Turriff. He followed a simple rule—the needs of the patients come first. In all matters of professional care and behaviour he set himself the highest of standards and was shocked by any attempt to abandon honourable traditions. His steadfastness in the face of illness and adversity was worthy of a true son of the north-east. We extend our deepest sympathy to his wife and to his mother in their sad loss.—W. R. C. L.

Dr. E. W. ROUTLEY died at Aldershot on December 5, 1956, at the age of 90. Edwin Walter Routley was born at Bath on October 27, 1866, and was educated at King Edward VI Grammar School, Bath, where he was a scholar. After leaving school he became a pharmacist and an expert photographer before taking up the study of medicine rather late in life. He received his medical training at Guy's Hospital, where he won the Golding-Bird gold medal and a scholarship in bacteriology in 1905. In 1902, while still a medical student, he was awarded a prize for an essay on consciousness by the Guy's Hospital Physical Society. He qualified M.R.C.S., L.R.C.P. in 1904, taking the Brussels M.D. in the same year and the Cambridge D.P.H. in 1905. He became a Member of the Royal College of Physicians of London in 1911. After qualification he held the post of assistant demonstrator in bacteriology at Guy's Hospital. In 1905 he was appointed medical officer of health for Aldershot, a post he retained until his retirement in 1931. He was also assistant tuberculosis officer to the Hampshire County Council and lecturer in sanitary law and administration at King's College, London. Other appointments he held at Aldershot included those of honorary bacteriologist and pathologist to the local hospital, medical superintendent of the isolation hospital, and medical officer to the education committee. During the second world war he reassumed the duties of medical officer of health while his successor, Dr. J. Craig Lindsay, was in the R.A.M.C. In the intervening period of eight years (1931–9) he was employed as a civilian medical practitioner with the R.A.M.C. and was medical officer to the 1st Guards battalion at Aldershot. By nature Dr. Routley was quiet and gentle, with a great love of children. He married twice and was a widower for the last 34 years of his life. He is survived by one daughter and two sons, one of whom is also medically qualified and a Guy's man.

Dr. W. A. ANDERSON, formerly senior surgeon to the Benn Eye, Ear, and Throat Hospital, Belfast, and chairman of the board of management of the Belfast Ophthalmic and Benn Hospitals, died on December 9, 1956, at the age of 71. From the Royal Belfast Academical Institution William Arthur Anderson went on to Clare College, Cambridge. He received his clinical training at the Royal Victoria Hospital, Belfast, and qualified by taking the London Conjoint diploma in 1910. After holding the appointment of house-surgeon at the Royal London Ophthalmic Hospital he graduated M.B., B.Chir. in 1914, and shortly afterwards joined the staff of the Benn Hospital. During the first world war he served in the R.A.M.C. as an ophthalmic specialist in France, Belgium and Italy for four eventful years. He was mentioned in dispatches, and in 1919 was awarded the Médaille des Épidémies (d'Or) by the French Government. After the war he proceeded to the M.D. in 1921. When he returned home the Benn Hospital was a small establishment of twenty beds doing an immense amount of work with very scanty resources and struggling from deficit to deficit. Dr. Anderson, being a man of great energy, was a valuable acquisition, and for over thirty years he was to provide the additional force needed to secure the enlargement of the hospital. When he retired in 1950, as senior surgeon, it was an institution of which he could be proud. On his retirement he became honorary consulting surgeon to the hospital and was presented with an illuminated certificate on his election as an honorary governor. His services were also retained as a member of the Belfast Ophthalmic and Benn Hospitals management committee. Dr. Anderson had held office as president of the Irish Ophthalmological Society and of the Ulster Medical Society and as vice-president of the Ophthalmological Society of the United Kingdom. He was a member of the Ophthalmic Group Committee of the British Medical Association from 1945 to 1949, and for many years he was a deputy lieutenant for the city of Belfast. He was a skilled operator, and his opinions were always inspired by common sense and were respected and sought after by all his colleagues. He ultimately became chairman of the board of management of the Belfast Ophthalmic and Benn Hospitals and guided their fortunes successfully in a very difficult time. A true and sincere friend, he could always be relied on in any difficulty. He was always loyal to medicine, but farming was his second love. In 1945 he contributed an article to the *Ulster Medical Journal* on soil and nutrition. He took farming seriously with sound common sense and success until failing health compelled him to take life more easily. He is survived by his wife and two sons, to whom we extend our sincere sympathy in their loss.

Universities and Colleges

UNIVERSITY OF ABERDEEN

At a graduation ceremony on December 12, 1956, the following degrees were conferred:

M.D.—J. Watt (with honours), Jessie C. Yorston (née Millar) (with commendation).

CH.M.—T. L. Carr.

M.B., CH.B.—C. C. Constantinides, A. E. Silberah, H. G. Tough, A. Tullett, A. J. Watt, D. Wilkinson.

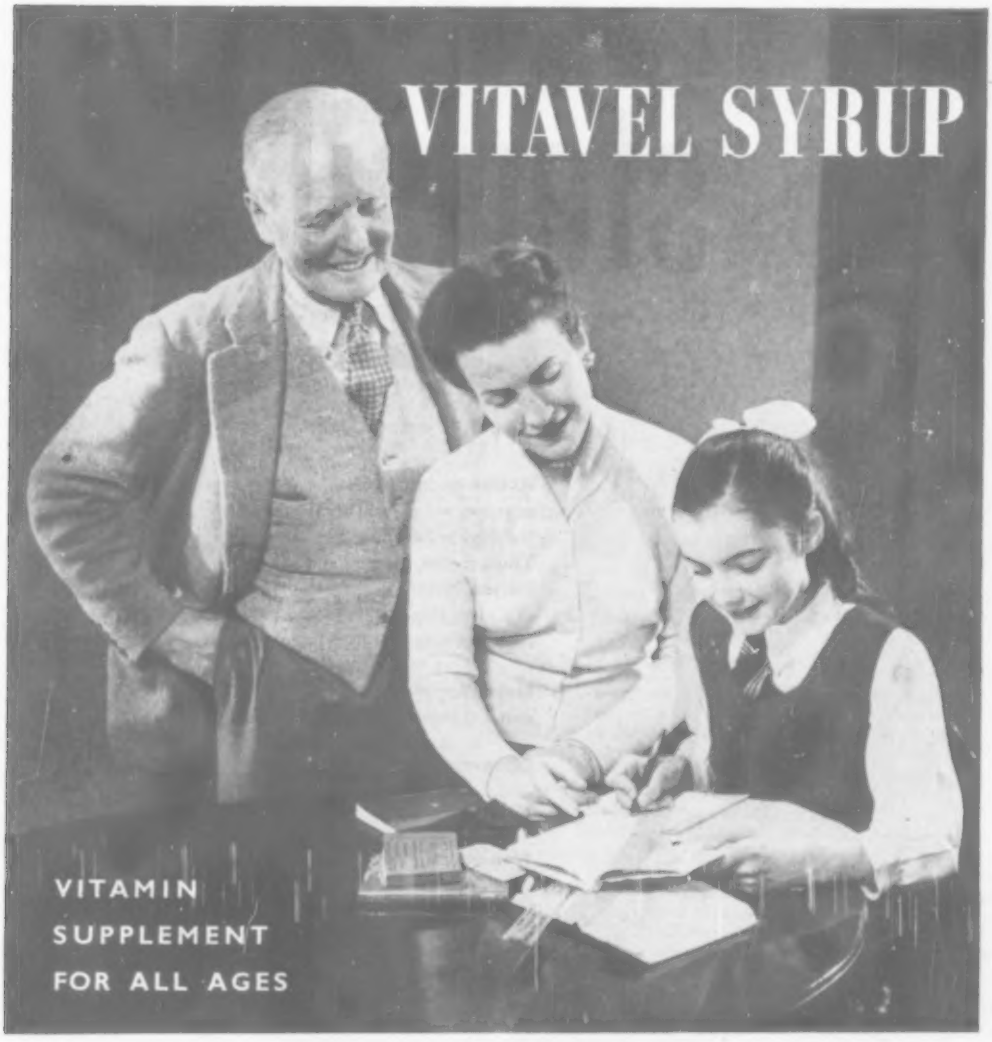
ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At a meeting of the College held on December 12, 1956, with Sir Walter Mercer, President, in the chair, the following candidates, having passed the requisite examinations, were admitted Fellows:

J. E. B. Aling, A. M. H. Y. Ansari, A. W. Beasley, F. H. Beddow, J. Blundell, S. P. Chandra, D. B. Chrisp, J. M. D. Crook, S. K. Das, H. L. Duthie, T. I. El-Gailani, D. C. Evans, A. V. Foote, A. K. Ganeopadhyay, E. R. Ghabbour, H. M. Hathout, W. R. Holmes, J. Hughes, A. E. Ikomi, T. K. Jagose, T. S.-B. Kelly, K. S. Kochhar, J. McArthur, I. W. A. McFarland, A. H. D. McJannet, I. J. MacQueen, G. A. Marin, A. Mulholland, J. Nayman, M. K. Panandikar, R. C. Patel, K. N. Pathak, R. Paton, J. A. Riedel, J. B. Ritchie, W. V. Rowe, T. L. Sarkin, C. H. Schulman, C. L. Shah, R. P. Singh, Mary E. G. Skinner, A. N. Smith, R. Stranz, E. C. Watson, C. U. Webster, C. H. Wolpe.

ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS

At a meeting of the Council of the College held at Melbourne on October 9 the following candidates, who were successful at an examination by the Australian Board of Censors, were admitted to Membership of the College: Dr. A. G. Zaver, of Queensland; Dr. C. S. H. Reed, Dr. D. E. Smith, and Dr. N. J. Yorkston, of New South Wales; Dr. C. W. Baird, Dr. R. H. D. Bean, Dr. J. L. Blunt, Dr. A. C. L. Clark, Dr. R. K. Doig, and Dr. W. H. Orchard, of Victoria; Dr. N. D. Abbott, Dr. R. G. Gold, and Dr. P. M. Last, of South Australia; Dr. D. D. Letham, of Western Australia.



Here is a liquid vitamin supplement that is truly delicious —Vitavel Syrup. This careful blend of real orange juice and liquid glucose with vitamins A, B_1, C, and D is readily accepted by patients of all ages and dispositions.

One fluid ounce contains at time of manufacture:—

VITAMIN A 20,000 i.u. VITAMIN D 3,000 i.u. VITAMIN B_1 4 mg.
VITAMIN C 80 mg. LIQUID GLUCOSE B.P. 25% w/v.

Basic price to N.H.S. 6 *fl. ozs.* 2/6, 40 *fl. ozs.* 16/-

BEMAX *stabilized wheat germ*

This richest natural vitamin-protein-mineral supplement is now available in two flavours, plain Bemax and chocolate-flavoured Bemax (of special appeal to children).

PREGNAVITE *during pregnancy*

A comprehensive vitamin-mineral supplement specifically designed to supply the enhanced dietary needs of pregnancy.

Basic price to N.H.S. 1,000 tablets 32/9.

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INTRODUCING

sterisil VAGINAL GEL

TRADE MARK

0.1% bis-1, 3-beta-ethylhexyl-5-methyl-5-aminohexahydropyrimidine (hexetidine)

Active against all the common pathogenic organisms of the vagina including Trichomonas, Monilia and Haemophilus Vaginalis, the organism responsible for the so-called 'non-specific' infections.

Needs fewer applications and a shorter period of treatment.

Odourless.

Non-toxic.

Non-staining.

PRESENTATION

Sterisil is available in tubes sufficient for six applications and six disposable applicators are supplied in the same pack.

DOSAGE

Sterisil is effective for the treatment of all vaginal infections. It is recommended that a course of 12 applications be followed, even though a clinical cure may be achieved after six.

sterisil
VAGINAL GEL

WILLIAM R. WARNER & CO. LTD.

Vital Statistics

Infectious Diseases

The largest variations in the notifications of infectious diseases in England and Wales during the week ending December 15 were increases of 515 for measles, from 5,978 to 6,493, and 72 for food-poisoning, from 247 to 319, and decreases of 147 for whooping-cough, from 2,126 to 1,979, and 80 for scarlet fever, from 846 to 766.

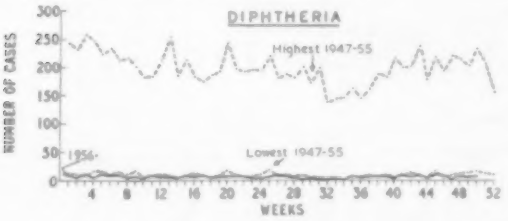
The largest rises in the incidence of measles were 188 in Lancashire, from 1,501 to 1,689, 109 in Staffordshire, from 200 to 309, and 57 in Gloucestershire, from 187 to 244; the largest fall was 48 in Kent, from 148 to 100. No large fluctuations were recorded in the local trends of whooping-cough. The largest decrease in the number of notifications of scarlet fever was 39 in Durham, from 81 to 42. 6 cases of diphtheria were notified, being 2 more than in the preceding week; 3 of the cases were recorded in Staffordshire, Coseley U.D.

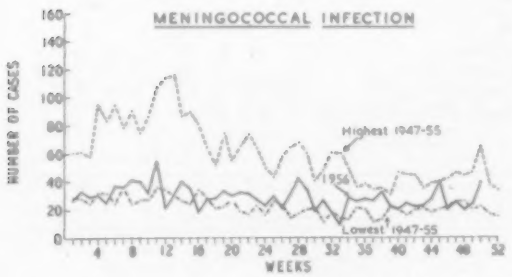
73 cases of acute poliomyelitis were notified, and these were 6 fewer for paralytic and 3 fewer for non-paralytic cases than in the preceding week. The largest returns were London 12 (Lambeth 3, Lewisham 2, Wandsworth 2), Middlesex 9 (Tottenham M.B. 2), Lancashire 8 (Clitheroe M.B. 2), Surrey 5 (Sutton and Cheam M.B. 4), and Sussex 5 (Brighton C.B. 3).

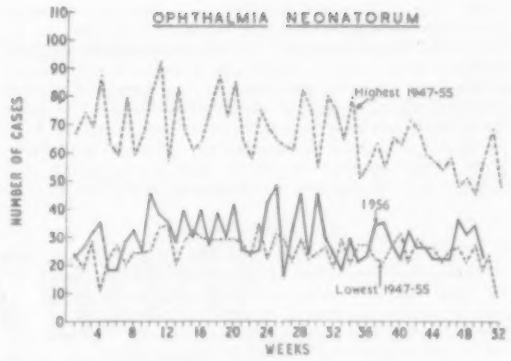
The notifications of dysentery numbered 808 and were 22 fewer than in the preceding week. The largest centres of infection were Yorkshire West Riding 119 (Sheffield C.B. 26, Leeds C.B. 20, Huddersfield C.B. 13, Colne Valley U.D. 13), Warwickshire 109 (Coventry C.B. 94), Lancashire 88 (Salford C.B. 13, Wigan C.B. 13, Blackburn C.B. 11, Bury C.B. 10, Liverpool C.B. 10), Essex 69 (Chigwell U.D. 25, Romford M.B 12, Thurrock U.D. 12, Ilford M.B. 10), Surrey 57 (Esher U.D. 19, Mitcham U.D. 10), London 50 (Islington 18), Kent 44 (Chislehurst and Sidcup U.D. 17, Bromley M.B. 14, Orpington U.D. 10), Bedfordshire 39 (Luton M.B. 39), Nottinghamshire 21 (Nottingham C.B. 19), and Middlesex 20.

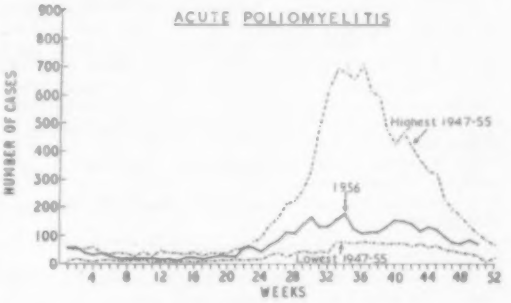
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported in each week during the nine years 1947–55 are shown thus ------, the figures for 1956 thus ———. Except for the curves showing notifications in 1956, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Food-poisoning in 1955

A review of food-poisoning in England and Wales during 1955[1] shows that 8,961 incidents were recorded—an increase of 2,945 on the total for 1954. The number of notifications (uncorrected) received by the Registrar-General was 12,717, but in the outbreaks reviewed here there were over 20,000 cases. Of the 8,961 outbreaks 7,626 were sporadic cases, 723 family outbreaks, and 612 general outbreaks. The causal agent was not established in 3,447 incidents. *Salmonella typhi-murium* was responsible for 47% of all incidents and 76% of the known causes, and other salmonellae were responsible for 12% of all incidents and 19% of the known causes. The fatal cases reported numbered 39; 25 of these were due to *Salm. typhi-murium* and 9 to other salmonellae. Four of the 34 fatal cases due to salmonellae were patients aged under 50 years; 20 were aged 50 and over.

The vehicle of infection was meat in 255 of the 312 outbreaks for which information was available; 228 of these were due to processed and made-up meat dishes. Reheated meats were the largest class in this group with 49 outbreaks, meat pies were second with 41 outbreaks, and in descending order cold meats, cold ham and bacon, and pressed meats. There was a close association between reheated meat and *Clostridium welchii* and between cold ham and bacon and staphylococci. The places where contaminated food was eaten or bought was known in 287 outbreaks; they were canteens 109, hospitals 69, shops 37, institutions 31, restaurants, cafés, etc., 24, and private parties 17.

Salmonellae were isolated in 5,383 incidents; 4,879 of these were due to 17 endogenous types (recognized before 1940), 443 to 65 exogenous types (recognized in 1940 or later), and 61 were unidentified or unnamed types. The most frequent among the endogenous types were *Salmonella typhi-murium* 4,276, *Salmonella thompson* 164, and *Salmonella stanley* 101. The largest groups among the exogenous types were *Salmonella heidelberg* 77, *Salmonella anatum* 50, and *Salmonella saint-paul* 37.

[1] *Monthly Bull. Minist. Hlth (Lond.)*, 1956, **15**, 263.

The high proportion of incidents with undiscovered causes was probably due to failure in reporting and delay in investigating these outbreaks. Recent experience suggests, says the report, that food-handlers cannot be incriminated as the cause of outbreaks, since they are generally infected at about the same time as the other patients. The latest food regulations may help to decrease food-poisoning from organisms other than salmonellae but can make little difference to the general picture so long as foodstuffs contaminated by salmonellae are allowed to be distributed.

Clean Air

Certain provisions of the Clean Air Act, 1956, came into operation on December 31. Similar provisions apply to Scotland. They enable local authorities to create smoke-control areas by Orders subject to confirmation by the Minister of Housing and Local Government. All new furnaces other than small domestic boilers must be, so far as practicable, smokeless. The Minister is empowered to make regulations requiring furnaces to be fitted with smoke density meters. The height of new chimneys, other than those of houses, shops, and offices, will require approval by the local authority. Owners of colliery spoilbanks must employ all practicable means for preventing combustion of refuse and for preventing or minimizing the emission of smoke and fumes from the refuse. Local authorities may make building by-laws requiring the provision in new buildings of such arrangements for heating and cooking as are calculated to prevent, so far as practicable, the emission of smoke.

Venereal Diseases

In England and Wales during the quarter ending June 30, 1956, 1,284 new cases of syphilis were reported as attending the clinics. Of these, 188 were classified as primary, secondary, or latent in the first year of infection. 10 cases of congenital syphilis in children aged under 1 year were reported, and 139 cases in persons over that age. New cases of gonorrhoea numbered 4,964, of chancroid 88, and of non-gonococcal urethritis (males only) 3,798.—*Monthly Bulletin of the Ministry of Health*, December, 1956.

England and Wales in Third Quarter, 1956

The number of live births in England and Wales in the quarter ending September 30, 1956, was 173,586, giving a rate of 15.5 per thousand population. This was 0.6 above the rate for the corresponding quarter of 1955. Stillbirths numbered 4,007, a rate of 22.6 per thousand live and stillbirths. This rate is 0.4 lower than that for the corresponding quarter of 1955. The number of deaths registered was 104,118, a rate of 9.3 per thousand population. The rate for the September quarter of 1955 and also the average rate for the corresponding quarters of the preceding five years 1950–4 was 9.1 per thousand population. The infant mortality rate was 20.3 per thousand related live births. This is the lowest quarterly rate ever recorded in England and Wales.

A new Table gives figures of accidental deaths in the March quarter. Of 4,670 deaths registered as accidental, 2,297 resulted from home accidents, 1,489 from transport accidents, and 884 from other accidents. Of the home accidents, 277 deaths were caused by coal-gas poisoning, 324 by burns and scalds, and 195 by choking and suffocation. Included in the 1,489 deaths from transport accidents were 222 of motor-cyclists, 126 of pedal cyclists, 621 of pedestrians, and 286 of motor-vehicle occupants. Of the total of 192 accidental deaths of children aged under 1 year, 154 were recorded as due to choking and suffocation.

Week Ending December 22

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 735, whooping-cough 1,732, diphtheria 10, measles 6,575, acute pneumonia 465, acute poliomyelitis 60, dysentery 696, paratyphoid fever 2, and typhoid fever 1.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **December 15** (No. 50) and corresponding week 1955.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1956					1955				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	6	0	6	0	4	17	2	5	0	7
Dysentery	808	50	245	6		837	36	142	9	
Encephalitis, acute	5	1		0		3	1		0	
Enteric fever:										
Typhoid	1	0	0	0	1	9	1	0	1	
Paratyphoid	2	0	3(B)	0		4	3	5(B)	0	
Food-poisoning	319	29	22	0		210	11		4	
Infective enteritis or diarrhoea under 2 years				12	7				13	14
Measles*	6,493	397	542	189	161	2,952	13	74	9	30
Meningococcal infection	39	3	14	1	1	29	4	3	1	4
Ophthalmia neonatorum	23	0	10	1		18	1	4	0	
Pneumonia†	590	42	264	4	2	549	29	264	14	3
Poliomyelitis, acute:										
Paralytic	49	8	4	0	9	58	5	5	1	5
Non-paralytic	24	4				31	2			
Puerperal fever‡	188	18	10	3		204	34	8	2	
Scarlet fever	766	56	70	18	23	1,035	80	125	41	25
Tuberculosis:										
Respiratory	578	64	134	27		537	49	111	24	
Non-respiratory	88	4	16	6		73	5	13	2	
Whooping-cough	1,979	101	354	16	35	1,068	71	99	85	88

DEATHS in Great Towns	1956					1955				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0	0	0	0	0	0	0	0	2
Dysentery	0	0		0		1	0		0	
Encephalitis, acute		0			0		0			0
Enteric fever	0	0	0	0		0	0	0	0	
Infective enteritis or diarrhoea under 2 years	7	0	1	0	0	10	0	3	0	1
Influenza	12	1	1	0	1	17	1	0	0	0
Measles		0	0	0	0		0	0	0	0
Meningococcal infection		0	0				0	0		
Pneumonia	279	40	14	11	6	291	59	27	10	9
Poliomyelitis, acute	2	1			0	4	0			0
Scarlet fever		0	0	0	0		0	0	0	0
Tuberculosis:										
Respiratory	59	10	10	0	4	90	6	6	1	2
Non-respiratory		0	1	0	1		1	1	0	0
Whooping-cough	1	0	0	0	0	1	0	0	0	0
Deaths 0–1 year	225	26	17	8	12	214	28	40	5	10
Deaths (excluding stillbirths)	5,316	769	529	220	150	5,718	823	647	105	174
LIVE BIRTHS	7,108	1059	895	115	355	6,802	962	880	154	292
STILLBIRTHS	183	20	26			222	21	21		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
‡ Includes puerperal pyrexia.

In Hypertension

RAUWILOID

Reduces the pressure gradually and safely . . .

Of *proved* value in the treatment of mild to moderate hypertension, 'Rauwiloid' is a purified and standardized fraction of *Rauwolfia serpentina* in tablet form. It lowers elevated blood pressure *gradually*, slows the pulse rate, and so reduces cardiac effort. A calm, tranquil sense of well-being is induced, without drowsiness, and with little impairment of alertness. Dosage is not critical, and there are no important side-effects or contra-indications. Mental depression is unlikely to be encountered when 'Rauwiloid' is used in the recommended dosage. It is the medicament of choice for hypertension in its early stages, in order to arrest progression.

'Rauwiloid' contains 2 mg. of the active hypotensive alkaloids of *Rauwolfia serpentina* per tablet, undesirable constituents of the crude root being excluded by the extraction process.

Dosage is simple—two tablets taken at bedtime.

Full literature on request.

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world-wide reputation for safety and reliability

Wide experience over 25 years has demonstrated conclusively that 'Sodium Amytal' is admirably suitable as a routine sedative and hypnotic. In sedative doses of 65 mg. (1 gr.) two or three times a day, it is invaluable in relieving stress and anxiety states, acting as a barrier between the patient and his worries, yet leaving his intellectual ability unimpaired. A hypnotic dose of 200 mg. (3 gr.) gives prompt sleep, after which the patient wakens refreshed and alert.

'Sodium Amytal' is a member of the widely-prescribed range of Lilly Barbiturates, from which the physician can select precisely that product best suited to his patient's need.

SODIUM AMYTAL

Lilly

ELI LILLY & COMPANY LIMITED, BASINGSTOKE, ENGLAND

Medical News

B.M.J. Centenary.—On January 3, 1857, the *British Medical Journal* first appeared under its present title. Before that it had been the *Association Medical Journal*. The new name was a natural corollary of the Association's own change of title. This had been a time of evolution in the Association's affairs. After the annual meeting in York in 1855 voting papers were issued to the 2,094 members of the then Provincial Medical and Surgical Association, so that they could record their views on how their Association should be named. A thousand votes were cast in this poll, the title "British Medical Association" being advocated by a majority of 260. Next a special general meeting, convened at Birmingham in November, 1855, set up a committee to revise the Association's laws. The new code of laws it produced, which among their other provisions named the Association as the British Medical Association (Law No. 1) and its journal as the *British Medical Journal* (Law No. 24), was finally passed after discussion and some amendment at the next annual meeting—the Association's 24th—held at Birmingham in July, 1856. From being headed "*Association Medical Journal:* being the Journal of the Provincial Medical and Surgical Association" on August 2, at the next issue, on August 9, 1856, the *Journal's* title had become "*Association Medical Journal:* being the Journal of the British Medical Association." However, the final retitling had to wait upon formalities at the Stamp Office, and it was not until January 3, 1857, that the *Journal* first appeared under its present name.

Assistant D.-G. of W.H.O.—Dr. P. M. KAUL, formerly director of W.H.O.'s division of external relations and technical assistance, has been appointed Assistant Director-General in charge of the department of advisory services, in place of Dr. VICTOR SUTTER, who has become Minister of Public Health and Social Assistance in El Salvador. Dr. Kaul was born in India in 1906. He graduated in medicine from the King Edward Medical College, Lahore, later obtaining the D.P.H.(Eng.) and the M.R.C.P.(London) after postgraduate study in London at Guy's Hospital and King's College. From 1934 to 1945 Dr. Kaul was in the Indian Medical Service, latterly with the rank of acting colonel. Then he became additional deputy public health commissioner with the Government of India until joining the World Health Organization in 1948. For some years Dr. Kaul served as chief of the W.H.O. liaison office with the United Nations in New York. He then went to Geneva as head of the external relations division.

Schistosomiasis in Africa.—Under the auspices of the World Health Organization a conference of 30 experts met at Brazzaville, French Equatorial Africa, from November 26 to December 8 to discuss the problem of bilharziasis in Africa. Since 1950 W.H.O. consultants have been surveying the incidence of the disease there and studying the distribution of the intermediate snail hosts of the schistosome cercariae. These surveys have shown that infection is rife in most African territories, on both East and West Coasts, in Egypt, the Union of South Africa, and Madagascar; but it is thought to be absent from South-west Africa, Ruanda Urundi, Basutoland, and Mauritius; a single focus was reported in Bechuanaland. Animal bilharziasis is generally far more widespread than human disease, being found in cattle, sheep, goats, camels, rodents, dogs, equines, antelopes, buffalo, and even elephants. But the importance of the animal reservoir of infection remains rather uncertain; in the Philippines, for instance, epidemiological studies were stated to have shown that man is responsible for up to 75% of the production of the parasites, domestic animals accounting for the remaining 25%. Besides the epidemiology of the disease, the conference also discussed control measures with molluscicides and by improving sanitation. Among those who attended the conference were Dr. W. ALVES, Dr. D. M. BLAIR, and Mr. H. V. DE VILLIERS CLARKE, from Southern Rhodesia; Dr. BOTHA DE MEILLON and Dr. R. J. PITCHFORD, from South Africa; Dr. P. L. LE ROUX and Dr. J. NEWSOME, from Great Britain; and Dr. E. T. ABDEL MALEK, from the Sudan.

St. John Ambulance Brigade.—Major-General J. M. KIRKMAN has been appointed commissioner-in-chief of the St. John Ambulance Brigade in succession to the late Sir OTTO LUND. General Kirkman has had a distinguished military career. Before and during the second world war he was in Military Intelligence, and attended the Washington, first Quebec, Cairo, and Teheran conferences on the staff of the British chiefs of staff. In 1944 he was on the staff at Salisbury during the launching of operation "Overlord"; and then was appointed chief of staff to the British Forces in Greece and subsequently in Palestine. In 1948 General Kirkman became chief of staff, Land Forces Far East, until 1950, when he took up the post of chief of the intelligence division in Germany. He retired from the Army in 1954.

Chair of Physiology at Middlesex Hospital.—London University announces the appointment of Dr. E. NEIL to the John Astor Chair of Physiology at the Middlesex Hospital Medical School. The previous occupant of this Chair was the late Professor SAMSON WRIGHT. Dr. Neil, who until his present appointment held the university readership in physiology at the Middlesex Hospital Medical School, is a graduate of Leeds University. He obtained the B.Sc., with first-class honours in physiology, in 1939, graduated M.B., Ch.B. in 1942, and proceeded to the M.D., with distinction, in 1944 and the D.Sc. in 1953. He has carried out research on the reflex control of the circulation and respiration.

Release of "Prednisone" and "Prednisolone."—The Ministry of Health in conjunction with the Department of Health for Scotland and the Ministry of Health and Local Government, Northern Ireland, have made arrangements with United Kingdom manufacturers of prednisone and prednisolone which will enable preparations of these substances to be supplied on prescription from February 1.

Public Health Engineering.—A co-ordinating committee has been set up to deal with problems of public health engineering. The chairman is Sir ALLEN DALEY, and the constituent bodies, each of which has one representative on the committee, are: the Institute of Sewage Purification; the Institutions of Municipal Engineers, Public Health Engineers, and Water Engineers; the Royal Society of Health; the Royal Institute of Public Health and Hygiene; the Sanitary Inspectors Association; and the Society of Medical Officers of Health. The committee, whose address is 90, Buckingham Palace Road, London, S.W.1, will be pleased to consider appropriate questions put to it through the councils of other organizations.

Aerial Bactericides.—The British Standards Institution has published a British Standard describing a technique for the preliminary assessment of aerial bactericides (B.S. 2796: 1956, price 3s. 6d. from the sales branch, 2, Park Street, London, W.1). In addition to its primary purpose as a screening test for potential aerial bactericides, the technique is also recommended for "quality control" in manufacture. Details are given of the test-chamber, test-organism, and culture medium, physical conditions during testing, how to produce the bacterial spray; and of serial sampling, interpretation of results, and checking the technique by means of a "reference" bactericide.

Cambridge University.—Dr. L. B. COLE, senior physician of Addenbrooke's Hospital, has been appointed deputy for the Regius Professor of Physic until further notice, for all purposes except that of acting as head of the department of medicine. Dr. F. G. J. HAYHOE, university lecturer in medicine, has been appointed deputy head of the department of medicine from December 5 until further notice.

Reader in Pharmacology at Guy's.—Dr. J. A. NISSIM, senior lecturer in pharmacology at Guy's Hospital Medical

world-wide reputation for safety and reliability

Wide experience over 25 years has demonstrated conclusively that 'Sodium Amytal' is admirably suitable as a routine sedative and hypnotic. In sedative doses of 65 mg. (1 gr.) two or three times a day, it is invaluable in relieving stress and anxiety states, acting as a barrier between the patient and his worries, yet leaving his intellectual ability unimpaired. A hypnotic dose of 200 mg. (3 gr.) gives prompt sleep, after which the patient wakens refreshed and alert.

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B.M.J. Centenary.—On January 3, 1857, the *British Medical Journal* first appeared under its present title. Before that it had been the *Association Medical Journal*. The new name was a natural corollary of the Association's own change of title. This had been a time of evolution in the Association's affairs. After the annual meeting in York in 1855 voting papers were issued to the 2,094 members of the then Provincial Medical and Surgical Association, so that they could record their views on how their Association should be named. A thousand votes were cast in this poll, the title "British Medical Association" being advocated by a majority of 260. Next a special general meeting, convened at Birmingham in November, 1855, set up a committee to revise the Association's laws. The new code of laws it produced, which among their other provisions named the Association as the British Medical Association (Law No. 1) and its journal as the *British Medical Journal* (Law No. 24), was finally passed after discussion and some amendment at the next annual meeting—the Association's 24th—held at Birmingham in July, 1856. From being headed "*Association Medical Journal:* being the Journal of the Provincial Medical and Surgical Association" on August 2, at the next issue, on August 9, 1856, the *Journal's* title had become "*Association Medical Journal:* being the Journal of the British Medical Association." However, the final retitling had to wait upon formalities at the Stamp Office, and it was not until January 3, 1857, that the *Journal* first appeared under its present name.

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Schistosomiasis in Africa.—Under the auspices of the World Health Organization a conference of 30 experts met at Brazzaville, French Equatorial Africa, from November 26 to December 8 to discuss the problem of bilharziasis in Africa. Since 1950 W.H.O. consultants have been surveying the incidence of the disease there and studying the distribution of the intermediate snail hosts of the schistosome cercariae. These surveys have shown that infection is rife in most African territories, on both East and West Coasts, in Egypt, the Union of South Africa, and Madagascar; but it is thought to be absent from South-west Africa, Ruanda Urundi, Basutoland, and Mauritius; a single focus was reported in Bechuanaland. Animal bilharziasis is generally far more widespread than human disease, being found in cattle, sheep, goats, camels, rodents, dogs, equines, antelopes, buffalo, and even elephants. But the importance of the animal reservoir of infection remains rather uncertain; in the Philippines, for instance, epidemiological studies were stated to have shown that man is responsible for up to 75% of the production of the parasites, domestic animals accounting for the remaining 25%. Besides the epidemiology of the disease, the conference also discussed control measures with molluscicides and by improving sanitation. Among those who attended the conference were Dr. W. ALVES, Dr. D. M. BLAIR, and Mr. H. V. DE VILLIERS CLARKE, from Southern Rhodesia; Dr. BOTHA DE MEILLON and Dr. R. J. PITCHFORD, from South Africa; Dr. P. L. LE ROUX and Dr. J. NEWSOME, from Great Britain; and Dr. E. T. ABDEL MALEK, from the Sudan.

St. John Ambulance Brigade.—Major-General J. M. KIRKMAN has been appointed commissioner-in-chief of the St. John Ambulance Brigade in succession to the late Sir OTTO LUND. General Kirkman has had a distinguished military career. Before and during the second world war he was in Military Intelligence, and attended the Washington, first Quebec, Cairo, and Teheran conferences on the staff of the British chiefs of staff. In 1944 he was on the staff at Salisbury during the launching of operation "Overlord"; and then was appointed chief of staff to the British Forces in Greece and subsequently in Palestine. In 1948 General Kirkman became chief of staff, Land Forces Far East, until 1950, when he took up the post of chief of the intelligence division in Germany. He retired from the Army in 1954.

Chair of Physiology at Middlesex Hospital.—London University announces the appointment of Dr. E. NEIL to the John Astor Chair of Physiology at the Middlesex Hospital Medical School. The previous occupant of this Chair was the late Professor SAMSON WRIGHT. Dr. Neil, who until his present appointment held the university readership in physiology at the Middlesex Hospital Medical School, is a graduate of Leeds University. He obtained the B.Sc., with first-class honours in physiology, in 1939, graduated M.B., Ch.B. in 1942, and proceeded to the M.D., with distinction, in 1944 and the D.Sc. in 1953. He has carried out research on the reflex control of the circulation and respiration.

Release of "Prednisone" and "Prednisolone."—The Ministry of Health in conjunction with the Department of Health for Scotland and the Ministry of Health and Local Government, Northern Ireland, have made arrangements with United Kingdom manufacturers of prednisone and prednisolone which will enable preparations of these substances to be supplied on prescription from February 1.

Public Health Engineering.—A co-ordinating committee has been set up to deal with problems of public health engineering. The chairman is Sir ALLEN DALEY, and the constituent bodies, each of which has one representative on the committee, are: the Institute of Sewage Purification; the Institutions of Municipal Engineers, Public Health Engineers, and Water Engineers; the Royal Society of Health; the Royal Institute of Public Health and Hygiene; the Sanitary Inspectors Association; and the Society of Medical Officers of Health. The committee, whose address is 90, Buckingham Palace Road, London, S.W.1, will be pleased to consider appropriate questions put to it through the councils of other organizations.

Aerial Bactericides.—The British Standards Institution has published a British Standard describing a technique for the preliminary assessment of aerial bactericides (B.S. 2796: 1956, price 3s. 6d. from the sales branch, 2, Park Street, London, W.1). In addition to its primary purpose as a screening test for potential aerial bactericides, the technique is also recommended for "quality control" in manufacture. Details are given of the test-chamber, test-organism, and culture medium, physical conditions during testing, how to produce the bacterial spray; and of serial sampling, interpretation of results, and checking the technique by means of a "reference" bactericide.

Cambridge University.—Dr. L. B. COLE, senior physician of Addenbrooke's Hospital, has been appointed deputy for the Regius Professor of Physic until further notice, for all purposes except that of acting as head of the department of medicine. Dr. F. G. J. HAYHOE, university lecturer in medicine, has been appointed deputy head of the department of medicine from December 5 until further notice.

Reader in Pharmacology at Guy's.—Dr. J. A. NISSIM, senior lecturer in pharmacology at Guy's Hospital Medical

School, has had conferred on him the title of reader in pharmacology in the University of London.

Professor W. W. Mushin, professor of anaesthetics at the Welsh National School of Medicine, is going to the University of California Medical Centre during March as visiting professor of surgery (anaesthetics). On his way he will address the New York State Medical Society at its sesquicentennial celebrations in February.

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INSTITUTE OF DISEASES OF THE CHEST.—5 p.m., Dr. K. Robson: clinical demonstration.

INSTITUTE OF LARYNGOLOGY AND OTOLOGY.—3.30 p.m., Mr. A. R. Dingley: Cancer of the Mouth and Pharynx.

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ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 p.m., Ophthalmology Lecture by Professor A. Sorsby: Neomycin in Ophthalmology.

ROYAL MEDICAL SOCIETY, EDINBURGH.—8 p.m., dissertation by Mr. R. J. Wilson: Neoplasia.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Jones.—On December 26, 1956, at St. David's Hospital, Bangor, to Mary (formerly Snelling), wife of Dr. Ellis Jones, a son.

Watson.—On October 3, 1956, to Moira, wife of John S. Watson, M.D., M.R.C.P., of 22, Cambalt Road, Putney, London, S.W., a sister for William.

Watts.—On December 18, 1956, at the Royal Free Hospital (Liverpool Road Maternity Annexe) to Joan (formerly Lambert), M.B., B.S., M.R.C.O.G., wife of Richard W. E. Watts, Ph.D., M.B., B.S., M.R.C.P., a son—Richard Arthur.

MARRIAGES

Burrell—Osselton.—On December 12, 1956, at Newcastle-upon-Tyne, James T. J. C. Burrell, LL.B., to Bridget A. W. Osselton, M.B., B.S.

DEATHS

Brown.—On December 4, 1956, at Byron Bay, New South Wales, Australia, James Alexander Spence Brown, B.Ch., aged 57.

Hornby.—On December 13, 1956, at The Limes, Walkden, near Manchester, Mary Kate Hornby (formerly Carroll), M.B., B.Ch.

Lowe.—On December 10, 1956, at his home, 8, Alexandra Road, Burton-on-Trent, William Pickering Lowe, M.B., B.Ch.

Mills.—On December 2, 1956, at Downside, Bexhill-on-Sea, Sussex, Reginald Peter Mills, M.R.C.S., L.R.C.P., aged 41.

Patterson.—On December 8, 1956, at Dunedin Nursing Home, Deal, Kent, Thomas Charles Patterson, M.B., Ch.B., Surgeon Captain, R.N., retired, of Kingsdown, Deal, late of Christchurch, New Zealand.

Routley.—On December 5, 1956, at Aldershot, Hants, Edwin Walter Routley, M.D., M.R.C.P., D.P.H., aged 90.

Topping.—On December 8, 1956, at Catterick Military Hospital, Yorks, Robert Ashley Ramsay Topping, M.R.C.S., L.R.C.P., D.T.M.&H., Lieutenant-Colonel, R.A.M.C., son of the late Professor Andrew Topping.

Waters.—On December 11, 1956, at his home, 176, Goring Way, Goring-by-Sea, Sussex, Alfred Charles Stanley Waters, M.R.C.S., L.R.C.P., late of March, Cambs.

Any Questions?

We publish below a selection of those questions and answers which seem of general interest. It is regretted that it is not possible to supply answers to all questions submitted.

Doctors with Cancer

Q.—*Much stress is being laid on the importance of the early diagnosis of cancer in obtaining the best five-year cure rate. As doctors are themselves the best observers of the earliest symptoms of cancer, are there any figures to show that the cure rate of cancer in doctors is substantially better than in laymen?*

A.—There are two facets to this very pertinent question: (1) Is the "cure rate" in doctors better than in laymen? (2) Do doctors seek investigation for suspected cancer sooner than laymen? Dublin *et al.*[1] investigated the first of these questions in the United States and found that "the death rate from cancer for each of the important sites is lower among physicians than among white males generally." The rate per 100,000 was 198 doctors to 245 laymen, a ratio of 0.81.

To the second question, Robbins *et al.*[2] were not able to return such an optimistic answer. They found, when comparing figures of 1923–8 with those of 1948, that there was during this time an improvement of 20% in the delay in seeking advice attributed to the patient, whereas the "culpability of the first physician consulted did not improve, in fact worsened from 17 to 23.4%." This "startling discovery" led them to wonder what sort of patient a physician himself would prove to be with regard to the early diagnosis of cancer. The answer was that there was no difference at all between a group of 229 physicians and 2,000 laymen, 39% of each group being considered to be blameworthy for delay in diagnosis and treatment.

REFERENCES

1 Dublin, L. I., Spiegelman, M., and Leland, R. G., *Postgrad. Med.*, 1947, 2, 188.
2 Robbins, G. F., Macdonald, M. C., and Pack, G. T., *Cancer*, 1953, 6, 624.

Treatment of Ringworm in the Tropics

Q.—*What treatment is advised for long-standing ringworm in tropical climates? What is the prospect of eventual cure?*

A.—This is a very wide question and does not indicate the site affected by ringworm. Here ringworm of the scalp will be excluded and only some of the epidermophytoses considered.

Chronic tinea pedis may become troublesome in hot climates as a result of active blistering, secondary infection, and lymphangitis. In such an acute phase soaking in potassium permanganate solution (1 in 8,000) and the application of the following ointment are helpful: Gentian violet 0.5%, acid. salicyl. 1%, and equal parts of ung. emulsificans and paraf. moll. to 100%. Sulphonamide by mouth may be indicated for lymphangitis, and rest in bed is usually essential. In the more chronic phase microscopic examination of scrapings from the scaling areas should be carried out and cultures made from them. In the Tropics *T. rubrum* is common and is usually rather resistant to treatment. Locally ung. acid. benzoic. co. (Whitfield's ointment) is still as effective as most, though in the absence of blistering dithranol (0.1%) in Lassar's paste is useful. The latter should not be applied to the tender skin of the instep. The nails of both the feet and hands should be carefully inspected and scrapings from any which are dystrophic examined for fungus. Infected nails require removal, but it is best to wait until the skin infection has been controlled. Within a day or two of removal the nail base should be treated with fungicidal ointment.

Tinea infection may be present in other sites. Tinea cruris usually clears readily with Whitfield's ointment, and more irritant preparations should be avoided. Pruritus ani may occur in a patient with tinea pedis as a result of infection in the perianal skin. Roughness of the palms of one or both hands resulting from hyperkeratosis may indicate infection with *T. rubrum*, and, indeed, it is now appreciated that smooth skin in any part of the body may become infected.

The prospect of cure is not good, though the infection can be kept controlled especially if care is taken in the toilet of the feet—daily washing with soap and water, especially between the toes, careful drying, and the use of fungicidal powders as a routine. The difficulty is to prevent reinfection either from socks, shoes, and slippers or from bath mats, duck-boards, etc.

Cheiropompholyx

Q.—*What treatment would be likely to cure a case of cheiropompholyx? Local treatment with hydrocortisone ointment has not been successful in preventing recurrence.*

A.—Cases of cheiropompholyx are among the most difficult with which a dermatologist has to deal. Some cases appear to depend upon chronic ringworm of the feet, and if this is present it should be treated along the usual lines. In most cases, however, no other lesion of the skin is present. The disorder may be associated with excessive sweating of the palms, and attacks may be brought on by hot weather or by emotional factors. In spite of this, drug treatment intended to reduce sweating seldom affects cheiropompholyx, and any psychiatric upset cannot usually be precisely defined and treated. Sedatives seem to be of no benefit. Treatment therefore resolves itself into a trial of various therapeutic measures which may from time to time help individual cases. Chief among these is x-ray treatment which is given during a period of quiescence with a view to preventing fresh attacks. Hydrocortisone is often unsuccessful, but in the worst cases the systemic administration of steroids—e.g., 30–40 mg. prednisone daily by mouth for a few days—will often cut short an attack. Provided the prednisone is given early in the attack, the lesions will often disappear completely within a few days or perhaps a week. After this, the prednisone must be gradually withdrawn, another week or ten days being taken over the process. Prednisone should not be given in the presence of pulmonary tuberculosis, high blood pressure, intestinal ulceration, and other usual contraindications. With a short treatment such as this, many of the complications of more prolonged treatment do not arise. The treatment is relatively trouble-free, though naturally reserved for the more serious case.

Two Anencephalic Monsters

Q.—*A healthy woman in her early twenties has given birth to two anencephalic monsters. These resulted from her first and second pregnancies, during which she kept well. Neither in her own nor in her husband's family is there a history of any similar defect. How is anencephaly inherited, and what environmental factors are known to play a part in its aetiology? What is the prognosis as regards further affected children in the family cited?*

A.—It is not known how anencephaly is inherited. No environmental factors have been shown to play any part in its causation in man.

A good estimate is available for the risk of anencephaly or spina bifida to later children of a mother who has had one child with anencephaly; the risk is about 1 in 30. But no well-founded estimate is yet available for a woman who, as here, had had two such malformed children. However, the risk is certainly not great. It is probably better than 1 in 10, and may be no more than the risk after one such child.

School, has had conferred on him the title of reader in pharmacology in the University of London.

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ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 p.m., Hunterian Lecture by Professor J. I. P. James: Paralytic Scoliosis.

Friday, January 11

●INSTITUTE OF DERMATOLOGY.—5.30 p.m., Dr. C. D. Calnan: clinical demonstration.

INSTITUTE OF DISEASES OF THE CHEST.—5 p.m., Dr. K. Robson: clinical demonstration.

INSTITUTE OF LARYNGOLOGY AND OTOLOGY.—3.30 p.m., Mr. A. R. Dingley: Cancer of the Mouth and Pharynx.

LONDON UNIVERSITY.—At Wright-Fleming Institute Lecture Theatre, St. Mary's Hospital Medical School, 5 p.m., special university lecture in medicine by Professor C. A. Janeway (Harvard): Physiology of the Plasma Proteins.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 p.m., Ophthalmology Lecture by Professor A. Sorsby: Neomycin in Ophthalmology.

ROYAL MEDICAL SOCIETY, EDINBURGH.—8 p.m., dissertation by Mr. R. J. Wilson: Neoplasia.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Jones.—On December 26, 1956, at St. David's Hospital, Bangor, to Mary (formerly Snelling), wife of Dr. Ellis Jones, a son.

Watson.—On October 3, 1956, to Moira, wife of John S. Watson, M.D., M.R.C.P., of 22, Cambalt Road, Putney, London, S.W., a sister for William.

Watts.—On December 18, 1956, at the Royal Free Hospital (Liverpool Road Maternity Annexe) to Joan (formerly Lambert), M.B., B.S., M.R.C.O.G., wife of Richard W. E. Watts, Ph.D., M.B., B.S., M.R.C.P., a son—Richard Arthur.

MARRIAGES

Burrell—Osselton.—On December 12, 1956, at Newcastle-upon-Tyne, James T. J. C. Burrell, LL.B., to Bridget A. W. Osselton, M.B., B.S.

DEATHS

Brown.—On December 4, 1956, at Byron Bay, New South Wales, Australia, James Alexander Spence Brown, B.Ch., aged 57.

Hornby.—On December 13, 1956, at The Limes, Walkden, near Manchester, Mary Kate Hornby (formerly Carroll), M.B., B.Ch.

Lowe.—On December 10, 1956, at his home, 8, Alexandra Road, Burton-on-Trent, William Pickering Lowe, M.B., B.Ch.

Mills.—On December 2, 1956, at Downside, Bexhill-on-Sea, Sussex, Reginald Peter Mills, M.R.C.S., L.R.C.P., aged 41.

Patterson.—On December 8, 1956, at Dunedin Nursing Home, Deal, Kent, Thomas Charles Patterson, M.B., Ch.B., Surgeon Captain, R.N., retired, of Kingsdown, Deal, late of Christchurch, New Zealand.

Routley.—On December 5, 1956, at Aldershot, Hants, Edwin Walter Routley, M.D., M.R.C.P., D.P.H., aged 90.

Topping.—On December 8, 1956, at Catterick Military Hospital, Yorks, Robert Ashley Ramsay Topping, M.R.C.S., L.R.C.P., D.T.M.&H., Lieutenant-Colonel, R.A.M.C., son of the late Professor Andrew Topping.

Waters.—On December 11, 1956, at his home, 176, Goring Way, Goring-by-Sea, Sussex, Alfred Charles Stanley Waters, M.R.C.S., L.R.C.P., late of March, Cambs.

Any Questions?

We publish below a selection of those questions and answers which seem of general interest. It is regretted that it is not possible to supply answers to all questions submitted.

Doctors with Cancer

Q.—*Much stress is being laid on the importance of the early diagnosis of cancer in obtaining the best five-year cure rate. As doctors are themselves the best observers of the earliest symptoms of cancer, are there any figures to show that the cure rate of cancer in doctors is substantially better than in laymen?*

A.—There are two facets to this very pertinent question: (1) Is the "cure rate" in doctors better than in laymen? (2) Do doctors seek investigation for suspected cancer sooner than laymen? Dublin *et al.*[1] investigated the first of these questions in the United States and found that "the death rate from cancer for each of the important sites is lower among physicians than among white males generally." The rate per 100,000 was 198 doctors to 245 laymen, a ratio of 0.81.

To the second question, Robbins *et al.*[2] were not able to return such an optimistic answer. They found, when comparing figures of 1923–8 with those of 1948, that there was during this time an improvement of 20% in the delay in seeking advice attributed to the patient, whereas the "culpability of the first physician consulted did not improve, in fact worsened from 17 to 23.4%." This "startling discovery" led them to wonder what sort of patient a physician himself would prove to be with regard to the early diagnosis of cancer. The answer was that there was no difference at all between a group of 229 physicians and 2,000 laymen, 39% of each group being considered to be blameworthy for delay in diagnosis and treatment.

REFERENCES

1. Dublin, L. I., Spiegelman, M., and Leland, R. G., *Postgrad. Med.*, 1947, **2**, 188.
2. Robbins, G. F., Macdonald, M. C., and Pack, G. T., *Cancer*, 1953, **6**, 624.

Treatment of Ringworm in the Tropics

Q.—*What treatment is advised for long-standing ringworm in tropical climates? What is the prospect of eventual cure?*

A.—This is a very wide question and does not indicate the site affected by ringworm. Here ringworm of the scalp will be excluded and only some of the epidermophytoses considered.

Chronic tinea pedis may become troublesome in hot climates as a result of active blistering, secondary infection, and lymphangitis. In such an acute phase soaking in potassium permanganate solution (1 in 8,000) and the application of the following ointment are helpful: Gentian violet 0.5%, acid. salicyl. 1%, and equal parts of ung. emulsificans and paraf. moll. to 100%. Sulphonamide by mouth may be indicated for lymphangitis, and rest in bed is usually essential. In the more chronic phase microscopic examination of scrapings from the scaling areas should be carried out and cultures made from them. In the Tropics *T. rubrum* is common and is usually rather resistant to treatment. Locally ung. acid. benzoic. co. (Whitfield's ointment) is still as effective as most, though in the absence of blistering dithranol (0.1%) in Lassar's paste is useful. The latter should not be applied to the tender skin of the instep. The nails of both the feet and hands should be carefully inspected and scrapings from any which are dystrophic examined for fungus. Infected nails require removal, but it is best to wait until the skin infection has been controlled. Within a day or two of removal the nail base should be treated with fungicidal ointment.

Tinea infection may be present in other sites. Tinea cruris usually clears readily with Whitfield's ointment, and more irritant preparations should be avoided. Pruritus ani may occur in a patient with tinea pedis as a result of infection in the perianal skin. Roughness of the palms of one or both hands resulting from hyperkeratosis may indicate infection with *T. rubrum*, and, indeed, it is now appreciated that smooth skin in any part of the body may become infected.

The prospect of cure is not good, though the infection can be kept controlled especially if care is taken in the toilet of the feet—daily washing with soap and water, especially between the toes, careful drying, and the use of fungicidal powders as a routine. The difficulty is to prevent reinfection either from socks, shoes, and slippers or from bath mats, duck-boards, etc.

Cheiropompholyx

Q.—*What treatment would be likely to cure a case of cheiropompholyx? Local treatment with hydrocortisone ointment has not been successful in preventing recurrence.*

A.—Cases of cheiropompholyx are among the most difficult with which a dermatologist has to deal. Some cases appear to depend upon chronic ringworm of the feet, and if this is present it should be treated along the usual lines. In most cases, however, no other lesion of the skin is present. The disorder may be associated with excessive sweating of the palms, and attacks may be brought on by hot weather or by emotional factors. In spite of this, drug treatment intended to reduce sweating seldom affects cheiropompholyx, and any psychiatric upset cannot usually be precisely defined and treated. Sedatives seem to be of no benefit. Treatment therefore resolves itself into a trial of various therapeutic measures which may from time to time help individual cases. Chief among these is *x*-ray treatment which is given during a period of quiescence with a view to preventing fresh attacks. Hydrocortisone is often unsuccessful, but in the worst cases the systemic administration of steroids—e.g., 30–40 mg. prednisone daily by mouth for a few days—will often cut short an attack. Provided the prednisone is given early in the attack, the lesions will often disappear completely within a few days or perhaps a week. After this, the prednisone must be gradually withdrawn, another week or ten days being taken over the process. Prednisone should not be given in the presence of pulmonary tuberculosis, high blood pressure, intestinal ulceration, and other usual contraindications. With a short treatment such as this, many of the complications of more prolonged treatment do not arise. The treatment is relatively trouble-free, though naturally reserved for the more serious case.

Two Anencephalic Monsters

Q.—*A healthy woman in her early twenties has given birth to two anencephalic monsters. These resulted from her first and second pregnancies, during which she kept well. Neither in her own nor in her husband's family is there a history of any similar defect. How is anencephaly inherited, and what environmental factors are known to play a part in its aetiology? What is the prognosis as regards further affected children in the family cited?*

A.—It is not known how anencephaly is inherited. No environmental factors have been shown to play any part in its causation in man.

A good estimate is available for the risk of anencephaly or spina bifida to later children of a mother who has had one child with anencephaly; the risk is about 1 in 30. But no well-founded estimate is yet available for a woman who, as here, had had two such malformed children. However, the risk is certainly not great. It is probably better than 1 in 10, and may be no more than the risk after one such child.

Sunbathing and Pulmonary Tuberculosis

Q.—*Is there any truth in the view that direct sunlight is harmful to patients suffering from pulmonary tuberculosis, even if the disease is quiescent?*

A.—After an earlier period of enthusiasm for sunlight in the treatment of pulmonary tuberculosis, medical opinion settled down to the general view that, on the contrary, sunlight was deleterious. The position is reviewed by Mayer.[1] More recently a number of cases of tuberculous pleural effusion have been described following sunbathing. Prolonged sunbathing, especially to the inhabitants of these islands who can indulge in it only occasionally, is apt to be exhausting, and any lowering of the body's resistance to the tubercle bacillus may be purely non-specific. Although it is not easy to prove a harmful effect, patients with pulmonary tuberculosis are probably wise to avoid erythematous doses of sunlight on their body.

REFERENCE

1 Mayer, E., *Amer. Rev. Tuberc.*, 1921, **5**, 75.

Progressive Cerebral Arteriosclerosis and Hypertension

Q.—*My patient, aged 46, has been suffering from progressive slowing of the mental processes since a left hemiplegia eight years ago, presumably due to cortical thrombosis. The blood pressure has remained constant during this time around 200/110. His vision has begun to fail and memory is now extremely defective. Syphilis has been excluded. The diagnosis is progressive cerebral arteriosclerosis. Is there any specific treatment which might benefit this man? Would large doses of oestrogen be of help?*

A.—In the present state of our knowledge treatment of progressive cerebral arteriosclerosis with hypertension is at best experimental. Stellate ganglionectomy has been tried, but without result. Milder hypotensive agents like reserpine and hydrallazine may be tried. Powerful ganglion-blocking agents (methonium, pentolinium) usually reduce cerebral blood flow when the pressure is very low and may aggravate the symptoms. Oral mecamylamine may be used in a dose which reduces the systolic pressure from 200 to about 150–160, but no attempt should be made to bring it down to normal figures. If symptoms become aggravated these drugs must be stopped. The subject of mental disturbance in malignant hypertension is discussed in a recent paper by Clarke and Murphy.[1]

Large doses of oestrogens are under trial to limit the development of coronary atheroma. If proved successful they may later find a place in cerebral atherosclerosis. It should be remembered that no treatment will repair the destruction of brain tissue which has already occurred, and the best that could be anticipated would be arrest of the progression of the cerebral damage.

REFERENCE

1 Clarke, E., and Murphy, E. A., *British Medical Journal*, 1956, **2**, 1319.

NOTES AND COMMENTS

Scientific Basis for Antenatal Relaxation Exercises.—Dr. ANTHONY RYLE (London, N.W.5) writes: May I comment on the reply on the question of the scientific basis for antenatal relaxation exercises ("Any Questions?" November 24, p. 1251)? There is, I feel, adequate scientific evidence that antenatal education, combined with careful handling of the labour, can reduce the pain of labour in a large proportion of women. The most significant report on this aspect is that of van Eps,[1] whose control series had no analgesia. Considerable reductions in forceps and caesarean rates, in perineal tears, and in neonatal asphyxia are reported by French and Russian writers summarized by Vermorel.[2] It is possible that these improvements, which are relative to previous experience of the writers, reflect no more than the ill effects of analgesics. They are none the less valuable. As regards pain relief, the mechanism is probably cortical rather than peripheral, and Vermorel gives a full explanation in Pavlovian terms of how this might act. Preparation should therefore be regarded as a combination of rational education and suggestion, and controlled series which lack the element of suggestion and which ignore the importance of labour-ward atmosphere can clearly expect to achieve no demonstrable results.

REFERENCES

1 van Eps, L. W. St., *Lancet*, 1955, **2**, 112.
2 Vermorel, H., L'Accouchement sans Douleur par la Méthode Psychoprophylactique, 1956. Camugli, Lyons.

OUR EXPERT replies: The original reply to the question made a clear distinction between the effect of relaxation and antenatal exercises on the course of labour and on the pain of labour. The latter is extremely difficult to assess scientifically, and for this reason only a guarded statement was made concerning it. The effect on the duration of labour, on the incidence of perineal tears, and on the need for operative intervention is easier to judge by controlled observations—although, even in this connexion, certain fallacies can arise. Dr. Ryle says that there is "adequate scientific evidence" to substantiate his claims, but gives no details of it. Why is the report by van Eps "the most significant"? Is it because the results support Dr. Ryle's contention, or is it because the inquiry leading to the report was better planned than the many others whose results are opposite? A careful and fair appraisal of the literature on this matter, as well as a detailed analysis of the results obtained in his own hospital, has been made by C. W. L. Burnett.[1] Those who consult his article will have little doubt where the truth lies.

REFERENCE

1 Burnett, C. W. L., *J. Obstet. Gynaec. Brit. Emp.*, 1956, **63**, 40.

Infirmary Mice.—Dr. A. J. K. DREW (Ramsgate) writes: With reference to the disappearance of the infirmary mice ("Any Questions?" November 17, p. 1190), rats are known to make occasional sudden departures from old haunts, and it may be that mice do the same thing—especially if given a formal invitation, as the following true story illustrates.

When my father was a young man his parents' stables at the end of a long garden in a small country town were infested with rats, no doubt attracted by the horses' oats and fodder. One day, when talking to the son of the corn merchant, my father mentioned the old Dorset belief or legend that rats could be induced to move if they were sent a polite invitation to a better hole. "If that is all," said the other, "I will write and ask the rats to come to our commodious corn stores, where they will find far more to eat than in your stables. But I shall be surprised if they accept." So a note to that effect was written and pushed into the largest rat-hole. As might have been expected, nothing appeared to happen at first. About two weeks later, however, a few friends returning home in the small hours reported that they had seen a large number of grey rats (definitely not pink ones) making their way along the street going east, that incidentally being the direction to the corn-shop from the stables. It is a fact that from that time our stables, and also another adjoining, became free from rats for many years, while what the corn merchant described as a great plague of rats attached themselves to his premises.

The above is an unvarnished account of what happened. Readers can judge for themselves as to cause and effect. If there are any doubters, let those with suitable premises write and deliver welcoming letters inviting the rats (or mice) from an infested house which is not too far away to their own, and await the result. If they do not like it when it happens—they have been warned.

Correction.—We are informed that the sum given by the Pharmaceutical Society to the Lord Mayor's Fund for Hungarian Refugees was 250 guineas, not 25 guineas as was previously stated (*Journal*, December 29, p. 1542).

Books of "Any Questions?" and Refresher Course Articles.—The following books are available through booksellers or from the Publishing Manager, B.M.A. House. Prices include postage. *Any Questions?*, Volumes 2 and 3 (8s. each); *Refresher Course for General Practitioners*, Volumes 2 and 3 (26s. 6d. each inland, 26s. overseas); *Clinical Pathology in General Practice* (22s. 3d. inland, 21s. 9d. overseas).

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SUPPLEMENT TO THE
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British Medical Association

PROCEEDINGS OF COUNCIL

The Council met on Wednesday, December 19, at B.M.A. House, with Dr. S. WAND in the chair.

The Council received with deep regret the report of the death of Sir Lionel E. H. Whitby, President of the Association from 1948 to 1949, and of Dr. John Irvine Milne, of Manchester, member of Council from 1950 to 1956. The CHAIRMAN said that Sir Lionel Whitby and Dr. Milne had a great deal in common ; both were popular and kindly men. Sir Lionel Whitby played a great part in the field of science, and he carried out his duties as President of the Association faithfully and scrupulously. Since his Presidency he had done a great deal for the Association in connexion with medical education. Dr. Milne was a very good member of Council and a good friend to the Association.

The members stood in silent tribute.

B.M.A. Honour

A letter was received from Sir Henry Dale expressing his appreciation of the honour which had been conferred upon him by the award of the Gold Medal of the Association. It appeared that the medal had not before been awarded to a research worker who had never been engaged in any form of actual practice, and this, said Sir Henry Dale, increased his sense of the exceptional honour done to him.

The Council unanimously agreed to record in the Association's Book of Valour the name and action of Lieutenant Stanley Grahame Sutton, R.A.M.C. Lieutenant Sutton, who is a National Service medical officer in the R.A.M.C., had displayed great gallantry and devotion to duty in Cyprus last June in rescuing and treating injured men trapped in a forest fire.

Part-time Work for Local Authorities

The CHAIRMAN reported that a special Subcommittee of Committee C of the Medical Whitley Council met in November to review the part-time fees payable by local authorities. The negotiations were based on the proposals for a new agreement drawn up by the Association's Liaison Committee and subsequently approved by the Council, and agreement was reached on all items in the claim. A new agreement was drawn up for England and Wales, and consultations are proceeding for Scotland. The new scale of fees (see *Supplement*, December 29, p. 228) was formally approved by Committee C on December 12. The agreement would replace the 1947 and 1951 agreements. The Chairman added that this successful outcome was due in no small measure to the work of Dr. A. V. Kelynack, Assistant Secretary of the Association.

Remuneration Claim

The CHAIRMAN said that at the recent meeting of the Negotiating Committee he invited the Joint Chairmen, Sir Russell Brain and Dr. A. B. Davies, Acting Chairman of the General Medical Services Committee, to attend the Council meeting. Sir Russell Brain had felt unable to do so because of his constitutional position, but Dr. Davies had accepted.

Dr. A. B. DAVIES, at the Council's invitation, gave an account of events in connexion with the remuneration claim. The Negotiating Committee received and studied the report of the debate at the Council meeting held on November 7. At that time they were all awaiting the Minister's reply to the Memorandum sent to him on September 12. On October 18, addressing the Conference of the Executive Councils Association, the Minister said, "It is not true that we have considered the details of the claim." That was five weeks after he had received the Memorandum, and on November 3 the Minister wrote to Dr. Macrae that he would reply "shortly." The reply, received on November 22, consisted of two terse paragraphs cursorily rejecting the claim. After the Minister's original rejection of the claim in July, the Negotiating Committee put forward legal representations, and the Minister promised a reasoned reply based on the arguments of his legal advisers. No such argument was contained in the letter of November 21.

The suggestion that the matter should or could be brought before the Courts was a red herring. The Minister knew that the doctors' individual contract was not related in any direct way to the financial provisions of the terms of service. A medical practitioner applied "to take service in an area upon the terms and conditions for the time being in operation in that area and for admission to the Medical List." The terms and conditions in operation in any area at any particular time were on the overriding

contractual obligation which the Government had with the profession. It was not only a contractual obligation—it was a moral obligation and it was an act of faith. The profession came into the service on the Government's assurance that it would accept Spens. The Minister was now trying to cast that act of faith aside.

The profession had built its house upon a rock, said Dr. Davies, the rock of Spens. It seemed firm and indestructible, but underneath that rock there were shifting sands, the shifting sands of ministerial trickery. The Minister said, "We have no contractual obligation"; and the profession had been betrayed. The Negotiating Committee was stunned, and the profession was shocked.

But the reply was not accepted. The same day letters were prepared and sent to the Minister and to members of the General Medical Services and Joint Consultants Committees. Dr. Davies authorized the sending out of a similar letter to local medical committees, and a statement was sent to the press. Because of the national situation the statement did not receive the publicity it might have done.

The Negotiating Committee had not retreated one inch from its position, nor had it surrendered one farthing of its claim. There had been several letters backwards and forwards trying to get the Minister to make a reasoned reply on the legal argument, but his replies were evasive. His last reply was that the Ministers found it difficult to see what they could usefully add to the correspondence, but they would be willing to meet the Negotiating Committee if it thought any good purpose would be served thereby. Dr. Davies said that after consultation with Sir Russell Brain he had authorized the publication of these later letters (*Supplement*, December 29, p. 227), and they would be found quite enlightening on ministerial views. In the middle of the correspondence Sir John Hawton elected to divide the Ministers' reply into two parts. The first part dealt with the validity of a claim, although the Minister had said that the Government had not considered the claim. On November 21 he had written that the claim had now been fully considered, and on December 4 he said that on the first part of the claim—namely, the merits of the case—the Ministers had decided that under present economic circumstances they could not consider it. The second part of the claim was on the matter of the contractual obligation, and again Sir John Hawton wrote, "It is our confirmed opinion that no such contractual obligation exists."

This, concluded Dr. Davies, brought the matter up to date.

To Dr. J. C. ARTHUR'S (Gateshead) question whether the Minister had ever been asked straight out, "Do you or do you not repudiate Spens?" Dr. DAVIES replied that he had not been asked that direct question.

Dr. E. C. DAWSON (Derby) also spoke on the question of the contractual obligation of the Government to act in accordance with the Spens Report. He understood that the profession had a cast-iron case on legal grounds as well as moral grounds. The Minister had challenged the profession to take the matter into court for adjudication, and Dr. Dawson could not see why the challenge should not be accepted. Had the Negotiating Committee considered taking it to court? To back out now would be a defeatist move.

The CHAIRMAN said that the obligation was subject to a "general overriding obligation to the profession." There was no written contractual obligation in the terms of an ordinary form of contract.

Dr. J. A. L. VAUGHAN JONES (Leeds) said that this was a serious position. A leading article in the *British Medical Journal* had spoken of the need for unity, and he would like the Negotiating Committee to feel that it had the profession behind it. He also wanted the profession to be satisfied that the Negotiating Committee was completely tied together and had a united purpose. He would like an assurance that there were no difficulties in the Negotiating Committee and that there was the unity spoken of in the *Journal*. The profession was considerably stirred up by these happenings and was behind the Negotiating Committee all the way, but it should be organized fairly soon for action.

Dr. A. V. RUSSELL (Wolverhampton) said that the law was inclined to settle disputes on the letter rather than the spirit, and the outcome of a recourse to the courts might be doubtful. Dr. Davies had said it would be useless to proceed on their own contracts. The Danckwerts Award had set out clearly what should be the doctors' deserts in the light of the Spens recommendation. Spens, up to the moment, had been the profession's anchor. The profession entered into a gentleman's agreement which it had loyally supported, but the politicians were ruled by expediency and nothing else.

What was to happen now? There was a question of mass resignation, but they must be perfectly sure that the profession was united on that issue. The press was not friendly to the profession. But it seemed to the speaker that this unfortunate position offered a great opportunity. Dr. Dain had said in 1948 that they would be able to shape the Service from within, and all had worked extremely hard to do this, but because of political obstruction they had not been able to shape it as completely as they would like. If, as a result of this betrayal of faith—for it was nothing else—they were drawn into the position of rejecting the National Health Service, it might be that there would be an opportunity to frame a health service which would work more efficiently and more economically than at present, and at the same time give to doctors a return more commensurate with their responsibilities and status.

Dr. DAVID BROWN (Liverpool) said that many practitioners still felt confused about the matter. It was a blow to find that there was not the legal obligation on the Government that most of them had thought that there was. Was it possible to get the Government to agree to arbitration under the chairmanship of the man who set the standard, Sir Will Spens? Negotiations had been going on since February 7, and he did not know of any other profession or trade union which would be so complacent. If there was no satisfactory reply from the Ministry the Council should call a Special Representative Meeting before the end of January, and a meeting of Council should be held in the first half of January.

Dr. H. H. D. SUTHERLAND (London) said that many practitioners thought that the Danckwerts interpretation of Spens held for all time. Could the Secretary remind the Council of the statements made to the profession about May 7, 1948, when the Council determined to advise the profession to enter the health service on a series of statements and guarantees made by the then Minister of Health? The opinion was expressed then that these guarantees were insufficient and might be quite worthless, and the statements by succeeding Ministers of Health had confirmed that opinion.

Dr. ARTHUR said that they must be realistic. The courts might prove that there was a promise from the Minister in 1948 to honour Spens, but this could not bind the present Minister. His policy was decided by Parliament, and Parliament had to take regard of changing circumstances. The Minister was faced with the problem of stopping inflation, and he had reversed the policy of his predecessors in order to do so. If there was repudiation of Spens it might be the best rallying point for the profession one could possibly have. It might be better to ask the Minister the direct question.

Dr. H. GUY DAIN (Birmingham) said that when the Negotiating Committee met the Minister on January 4 he would probably say that the Government was not prepared to pay any more to doctors, that the claim had not been considered on its merits, that there might be a good case but the Government had not got the money and was not prepared at the moment to look at it. That was the sort of answer the Negotiating Committee was likely to get, and he thought it would be wise not to talk about taking legal action or going to arbitration. He was sure the Minister would not agree to arbitration.

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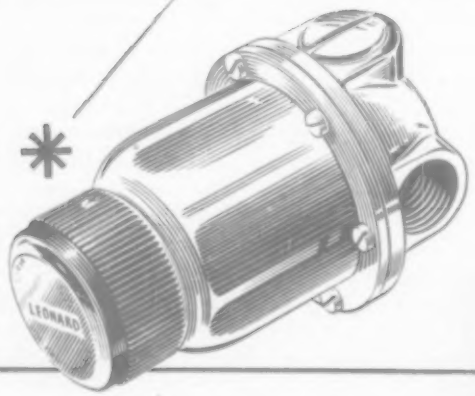

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What we should look at now, he said, was what steps we are going to take when we get a final "No." That was the problem to be studied now. Were mass resignations from the Service to be pressed for if there was a definite refusal of Spens by the Minister? If so, the profession would come out on a question of principle, not a question of money. Mass resignations were unnecessary. If doctors resigned in a body in a few areas of sufficient size it would be equally effective. He did not think it essential that consultants should resign. It was the general practitioners who could make or break the Service, and general practitioners were strong enough to do so.

Dr. G. W. IRELAND (Midlothian) asked whether it was possible to keep this issue isolated. He wondered if it could be looked at as something bound up with the whole structure of the National Health Service and with the professional status of the doctor in society. If this broader context was kept in mind there would be a different response from the Government and from the public. The Association must have a policy which covered the whole Service and not dealing merely with isolated events.

Dr. I. M. JONES (Sunderland) directed attention to a resolution of the Representative Body which said that the Council should assume greater responsibility for all claims by the profession, and he thought the Council should accept this fuller responsibility. Some clear-cut plan for the future should be adopted that day. He agreed with Dr. Dain on what the Minister's reply would be, but it was the Negotiating Committee's reply which had to be considered. Should it ask for independent arbitration? If the Minister refused, the profession would be faced with an issue which would affect the social and economic status of the doctor not only now but for many years to come. There should be a Council meeting early in January to decide what its attitude should be.

Quite apart from remuneration, many practitioners were concerned with the overall pattern into which medicine was drifting. An alternative to the present Service was being considered, and no doubt this would come to the Council in due course, but he could not agree that because such a plan was being developed it was a reason for delaying something which should have been done some time ago. The Government, this very summer, granted supplements to civil servants to cover increases in the cost of living in the last twelve months. The profession could not accept a proposition to wait another two or three years. The Divisions must know that the Council meant business and was making an effort to proceed with haste.

Mr. S. F. LOGAN DAHNE (Reading) said that the Council was being realistic and must continue to be so. This did not mean it would do anything to undermine the position of the Negotiating Committee, but it supported it. It seemed to him that there must be a Council meeting early in January. The British Medical Guild must be put into operation, and it must be got across to the Minister that the profession was prepared to fight. Whatever was eventually done must be done by the whole profession. The politicians must be made to realize that doctors were exceedingly important in the community and that the community would be in great difficulty without them. They had all done their best to make the Service work. They must win this time, for if they did not the profession was finished for ever.

Future Action

The CHAIRMAN said that it was clear that the Minister's reply did not satisfy the Council. He thought also the Council was agreed that not a lot of positive action could be taken until the outcome of the meeting with the Minister on January 4 was known. There remained the question of what could be done now. He would ask the Council not to be precipitate. Arbitration was a very good thing, but it could happen at the wrong time. It could be at the right time before the wrong man; it could be at the wrong time before the right man. The point was being reached where they had to decide on their general tactics. Could anything be done in advance of the meeting on January 4? In view of what was likely to happen, should the weapons be sharpened now? ("Hear, hear.")

The plan of campaign perhaps should not be debated now, but there was one decision which could be taken, and that was whether the Guild machinery should be got going.

Dr. SUTHERLAND asked if it was possible to have the statement for which he had asked earlier, and the SECRETARY replied that there was a letter dated July, 1946, from the Permanent Secretary of the Ministry of Health to the British Medical Association in which it was said that the Minister fully accepted the Spens recommendations with regard to remuneration. In January, 1949, there was a statement in the House by the Parliamentary Secretary to the effect that when the final accounts for the period July 5, 1948, to March 31, 1949, had been made it would be possible to see whether the remuneration of general practitioners did in fact accord with the Spens recommendations. If it did not it would be gone into to see what adjustments were necessary. This statement referred to the General Practitioner Spens Report. With regard to the consultants and specialists, the Minister stated on June 3, 1949, that the report on the remuneration of consultants and specialists would be available the next day, and that "the Government accepts the recommendations in principle."

Dr. DAVIES, replying, said that the Negotiating Committee was absolutely united in purpose. On paper there were constitutional difficulties, but in fact they did not exist. It had been agreed when the Negotiating Committee was set up that neither the Joint Committee nor the General Medical Services Committee would act without the other, and that any decisions should be referred to the parent committees in each case. From the beginning the Council had endorsed the setting up of the Committee, and 50% of the members were members of Council. He could not commit either Committee on future action, but he would assure the Council he would do all he could to weld the different branches of the profession together.

With regard to resorting to the courts, Dr. Davies said that the Chairman of Council had answered Dr. Dawson. Other possibilities had been discussed, but these were matters for the Negotiating Committee, which would be advised on the views of the Council. He would assure the Council that there had been no delay on the part of the Committee.

Dr. F. GRAY (London) said that the Guild machinery should be put into operation immediately. This would take some time. In the past the Guild had been concerned with G.P.s only. It was now essential that all sections of the profession should be organized. This was not the time for passing resolutions or calling special meetings; it was a time for getting down to quiet preparation in readiness for every eventuality. Dr. Gray was quite certain that the Ministers would continue to say "No." The Guild had to reach members who never thought of attending an ordinary B.M.A. meeting, and it also required information from these members. It would be unwise to hold a special meeting of Council or a Special Representative Meeting until the Guild machinery was working. The energies of members of Council would be better employed in their areas than coming to London for a special meeting.

Dr. R. G. GIBSON (Winchester) thought the Divisions were ahead of the Council and the Guild machinery should be got to work now. Dr. J. A. L. VAUGHAN JONES said that in the area of the Yorkshire Branch the machinery was already working and the group leaders were meeting on January 9.

It was agreed to leave it to the Chairman to make the necessary decision about a special meeting of the Council. In any case the next meeting of Council was fixed for January 30.

It was also agreed, on the motion of Dr. A. BEAUCHAMP, that the Joint Chairmen of the Negotiating Committee be invited to attend the next meeting of Council.

Position of Negotiating Committee

In reply to Dr. I. M. JONES, who asked for a definition of the position of the Negotiating Committee *vis-à-vis* the Council, Dr. DAVIES said that the Negotiating Committee consisted of an equal number of members appointed by the General Medical Services Committee and the Joint Committee of Consultants and three public health members co-opted after the first meeting. The Committee's remit was to prepare the case, negotiate, and report to its parent committees. The Negotiating Committee had no funds whatever.

The CHAIRMAN added that the Negotiating Committee was an independent body representing the General Medical Services Committee and the Joint Committee. Only half of it was responsible to the Council, and it must be regarded as completely independent.

Dr. I. M. JONES commented that the Negotiating Committee had no power to accept any settlement without reference back to the two committees. Surely the General Medical Services Committee was responsible to the Council.

Dr. BEAUCHAMP thought the Negotiating Committee's job was to get the 24%, and if they failed they must inform their parent bodies and future action would have to be taken by the Association.

Dr. GRAY, speaking as a member of the Negotiating Committee, agreed with this view.

Dr. DAVIES said that it was essential that they should keep together, and there was a danger in drawing hard-and-fast rules on who was responsible for this or that.

Dr. R. HALE-WHITE (London) asked if the principle was accepted that if the 24% was not achieved the Negotiating Committee would report back to the Council.

Mr. A. LAWRENCE ABEL (London) did not think it was quite clear to the Joint Committee what they would do in the event of refusal. The G.M.S. Committee part of the Negotiating Committee would report back to the G.M.S. Committee, and the consultant members of the Joint Committee would undoubtedly report back to the Central Consultants and Specialists Committee. But the representatives from the Colleges on the Negotiating Committee would report back to the Colleges, who would make their own decision whether they would pull their weight with the Association. He was worried about that little gap.

Mr. H. H. LANGSTON (Winchester) agreed mainly with what Mr. Abel had said. The view was that the Negotiating Committee would report back to its constituent bodies. He hoped that the next step would be that the Joint Committee would fall in with any action that the Association felt it appropriate to take.

The CHAIRMAN said that the process of negotiation was very diverse, and it was only when one got into an impasse that one considered sanctions. He thought they had better be left for the moment.

Dr. J. G. M. HAMILTON said that it had been implied that the Royal College of Physicians, Edinburgh, had repudiated the remuneration claim. That was false. The College had believed that it was inexpedient and unwise to make the claim when the claim was made, but, having made its point, it did not resign from the Joint Committee and it had worked loyally with it. He had every reason to suppose that it would continue to do so.

General Medical Services Committee

It was agreed that the Acting Chairman of the Committee, Dr. Davies, should present the report. Dr. DAVIES then moved that the report be received.

Dr. R. FORBES (Hendon) raised a question on the provision under the protection-of-practices scheme that during an "emergency" a doctor absent from his practice would remain on the medical list and be expected to make deputizing arrangements to enable his practice to be carried on. The scheme departed from the scheme previously in operation in that it was proposed, on the absent doctor's return, that patients who had transferred to the list of another practitioner should be given the option of returning to his list or remaining on the list of the deputizing doctor. Those who chose to remain on the deputizing doctor's list would be at liberty to do so, but he would not be paid for them for 12 months, the money being given to the practitioner who had returned, and from whose list the patients had been taken. Dr. Forbes asked if this agreed with Sections 31 and 36 of the Act, and whether it amounted to the buying and selling of a portion of a practice. Were the Association's solicitors consulted on this matter?

Dr. DAVIES replied that the Committee was asked to confine itself to minor emergencies, the Ministry refusing to consider any other type. The number of practitioners concerned was 9 or 11, and the Committee was anxious to preserve and protect the interests of these absentee practitioners. Patients would be informed that their own doctor had returned, but there remained the freedom of choice of the patient. The Ministry's lawyers had gone into the legal aspect, and the Committee was assured that there was no infringement of the Act.

Dr. W. M. KNOX (Glasgow) said that this provision was taken out of the scheme in operation in Scotland during the last war.

Dr. FORBES said he was concerned about the fact that the deputizing practitioner might be acquiring a certain number of patients from someone else at the price of a year's wages.

Dr. W. E. DORNAN (Sheffield) said that the basic principle of transfer of goodwill was that a man had something to transfer. If these patients were no longer prepared to adhere to him he had nothing to sell. He did not think any charge of breach of the provisions of Section 35 could be maintained in these circumstances.

Dr. FORBES asked for an assurance that something in writing would be obtained from the Ministry that this proposal was not an infringement of the Act, and Dr. DAVIES replied that it was now embodied in an Act of Parliament.

Dr. I. M. JONES raised the question of the Committee's comment on the resolution of the Annual Representative Meeting that précis of the evidence of witnesses before service committees should be prepared and signed by the witness, and that proceedings against a doctor before a service committee should be only in respect of a breach of the regulations, and that the doctor be notified in advance of the inquiry of the regulation of which he was alleged to be in breach. The Committee's comment was that the tribunal regulations had only just been amended, and it did not feel it was possible to seek further amendments at this stage. In any case this particular resolution was contrary to a decision taken by the Annual Conference of Local Medical Committees last year. He moved the reference back of this part of the report, but it was not seconded.

Dr. DAVIES said that the matter would be kept in mind, and when an opportune time came it would be gone into again.

Asked if the protection-of-practices scheme contained any reference to the purely private practice, Dr. ALEXANDER BROWN said that it did.

Dr. DAVIES moved that the remainder of the report be approved, and this was carried.

Dr. GIBSON said that there was an increasing shortage of radiographers, and he asked that the General Medical Services Committee should consider it, because the shortage was affecting the services available to the general practitioner.

Central Consultants and Specialists Committee

Mr. A. HOLMES SELLORS moved the reception of the report. Speaking to a recommendation that representations be made to the Ministry of Health that a national scheme for the training of mental health officers should be formulated and put into operation without delay, Dr. H. D. CHALKE said that there was already a working party on this. The recommendation was agreed to.

Arising out of the Waverley Report, the Committee had considered the concern of the Psychological Medicine Group Committee at the recommendation of the Waverley Committee that, although the directors of Army medicine and surgery should be up-graded to the rank of major-general, the directors of pathology and psychiatry should remain in

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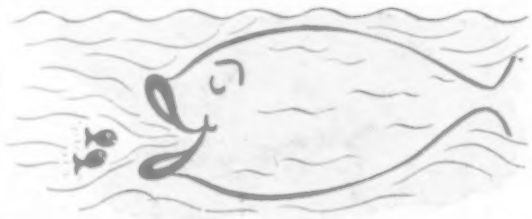

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a lower rank. The Committee recommended that the Council should approve the principle that the directors of Army psychiatry and pathology should have equal status with the directors of medicine and surgery, and that representations should be made to the Minister of Defence accordingly.

Major-General J. C. A. DOWSE asked the Council to reject this recommendation. It was the custom in the Services to make senior appointments largely on the grounds of responsibility. The principle suggested by the Waverley Committee was that there should be three leaders of treatment in the armed Forces, and that the directors of surgery, medicine, and Army health should be major-generals. He understood that these recommendations had not yet received great favour with the armed Forces, who were at the moment discussing the recommendations of the Waverley Committee. It was desired to improve the professional status of officers in the Army, Navy, and Air Force, but they did not consider this method of establishing posts for various professional people necessarily to be the correct one. It must be for the Service to decide whether rank should be given automatically, and he hoped it would be left to the Services to decide the appropriate ranks for the various branches of the profession.

Mr. LOGAN DAHNE said that the position of psychologists was very important. With regard to pathologists, he believed a great deal of our success in the Burma campaign was due to the high rank of the pathologists, who were thus able to get their advice adopted.

Mr. HOLMES SELLORS said that the Committee had not had the advantage of the information which Major-General Dowse had now given, and he felt a little uneasy about the recommendation.

The recommendation was not accepted.

Mr. HOLMES SELLORS, speaking on hospital medical staffing, said that the position was causing great anxiety and there was no immediate solution to the problem.

Mr. E. A. GERRARD (Manchester) said that there was a good deal of unhappiness in the junior hospital staffs. The registrar problem did not seem to be sorting itself out. This problem did not concern only the senior registrars. Registrars, senior house officers, and surgeons were all affected. The problem might appear beyond solution, but something should be done, and, if only they could get away from the idea that all consultants must be equal and that it was a disgrace to be an assistant physician or surgeon, it would be an advantage. He believed the Association should take a lead in this matter. The Council and the Central Consultants and Specialists Committee should try to sort it out and relieve this log jam. If something was not done he did not know what would happen.

Dr. HAMILTON said that the present position was deplorable. It was eighteen months since the Strachan Committee's report was put forward and accepted as Association policy, and now the principles of that report seemed to be dead. Everybody who looked at this matter in a realistic way realized that the hospital service must have another career grade. No service could be run by major-generals alone; there must be colonels. He would like to ask if the Chairman of the Committee could give an assurance that the proposals of his Committee contained the essential principles of the Strachan report, including that of a second career grade; if so, where were they?

Dr. DAVID BROWN said that a large part of the work in the hospitals to-day was carried out by senior registrars, and some of them even at the age of 40 were paid a ridiculously small salary for the work they were doing. They were discontented—and some were leaving the country for posts abroad.

Mr. LANGSTON said that the Ministry would not look at one of the main recommendations of the Strachan report, and that was why the Committee had not gone any further. Before any new form of grade was introduced as a permanent feature there had to be a review of the consultant and other needs of the regions. Until this had been done it was impossible to move the Ministry.

Mr. A. DICKSON WRIGHT said that under the old system there were assistant surgeons and full surgeons, and there should be something like that now. Much of the work was being done by registrars, and at present a man went straight from being a senior registrar to full consultant, and that was not right. If the consultant body could be increased by an influx of people of assistant standard it would not increase the number of full consultants. The position was arising now that when people over 40 years of age applied for a position they were considered on compassionate grounds, and the brilliant young man had to be content with a post as registrar. The great opponent to the assistant grade had been the B.M.A., because it felt that the Government would use these men in order to economize. But the right thing was to have some intermediate stage between full consultant and registrar. It was a criticism of the hospital service that so much was being done by the registrars.

Mr. HOLMES SELLORS said that it was continually being pointed out to the Ministry that there was a shortage of consultants. It had always been Association policy that there should be more consultants. On the question of the assistant consultant grade, had they not been warned by what had happened in the S.H.M.O. grade? Many had not a clear idea of what they meant by an assistant consultant. If registrars were doing more work than they should, was it not time for the consultant to ask for more help? He was very unhappy at the idea of a new grade being created.

Dr. ARTHUR asked if Mr. Holmes Sellors would agree that, if a consultant was a consultant for 20 years and a registrar was a registrar for ten years, there must be twice as many registrars as consultants.

Mr. GERRARD moved "That the Council expresses its concern at the lack of progress which has been made in solving the problem of hospital medical staffing." The CHAIRMAN said that the debate would be reported, and suggested that this would indicate that the Council's mind was seriously exercised about this problem.

Mr. LOGAN DAHNE, referring to the visit of Lord Moran to the committee to give an account of the work of the Minister's Advisory Committee on Distinction Awards, said that he had no doubt that the people who received distinction awards deserved them, but this Committee was dispensing public money in strict secrecy. No one knew who received what or why. They were entitled as taxpayers to know a little more about how and why this public money was dispensed.

Mr. D. S. PRACY (Atherstone) moved that this paragraph of the report be referred back.

Mr. DICKSON WRIGHT said that it would be contrary to ethics to publish this kind of information: it could be regarded as advertising.

Dr. DAVID BROWN seconded the reference back. He did not think anybody was very satisfied about a committee which worked in secrecy. The money should be a responsibility payment, as the Representative Body had said.

Dr. I. D. GRANT asked if some consideration could be given to the question of responsibility payments. If a consultant was of sufficient value to the community to be appointed in charge of wards then he had sufficient standing to merit an award or a responsibility payment for the work he did. The ordinary practitioner could see very little to choose in the men who were in charge of the wards. They were all equally good.

Mr. HOLMES SELLORS said that the Committee went into the question of responsibility payments. He did not claim that Lord Moran's Committee was right every time, but it was nearly always right, and anyone who felt that he should have a merit award could apply to the Committee. The fact that there were a number of vacancies was periodically notified. If the profession decided that they did not want the merit award system it would be abolished and the money would be lost.

Dr. WRATHALL ROWE thought that the Central Consultants and Specialists Committee could produce a tentative alternative scheme on which the Representative Body might

give its views. The point of the general practitioner having some say in merit awards was very important.

Mr. LANGSTON said that the point not brought out in the Committee's report was that this was the first major discussion it had had on this question for a long time. Lord Moran was invited to attend the Committee and give as much information as he felt able to. The paragraph in the report, "The Committee does not consider it desirable to take any action which would result in the abolition of the distinction award system, and it has reaffirmed its confidence in Lord Moran and his advisory committee," was actually passed in the form of two resolutions. If a reference back was accepted, the Council would be passing something contrary to the consultants and specialists' own resolution arrived at after a full discussion. It would be a serious matter in the eyes of the Committee. There was no question at all but that the entire Committee, representing all the consultants in the country, expressed an overwhelming vote in favour of the merit award system as it now stood.

Dr. J. A. PRIDHAM (Weymouth) said that this was a matter for the consultants themselves, and it would be unfortunate if the Council turned this down.

The reference back was defeated.

Dr. D. BROWN, referring to the Committee's comment on a resolution of the Annual Representative Meeting stating that the Council had failed to implement a resolution passed at the 1955 meeting relating to the Bradbeer report on the internal administration of hospitals, said that his Division's resolution was carried overwhelmingly by the Representative Body and yet the same evasive reply was received from the Committee. The resolution had expressed the belief that the lay and ancillary services must be subordinate to the medical and that the equal tripartite administration recommended by the Bradbeer Committee was not in the interest of the patient.

Mr. HOLMES SELLORS said that the Committee had made a careful commentary on the Bradbeer report, which was adopted by the Joint Committee.

Mr. STAVELEY GOUGH said that he had a great deal of sympathy for the attitude of the Representative Body. This was the one part of administration where the overall responsibility of the doctor stood out. The doctor–patient relationship was involved.

The CHAIRMAN said that the resolution was not mandatory and he wondered if the Committee would look at it again.

Dr. BROWN said he wanted the Council to consider this matter. A policy-making resolution had been passed by the A.R.M. and an autonomous body was flouting it.

It was agreed that the matter should be referred back to the Committee. A paragraph dealing with resolutions of the Representative Body on general-practitioner beds in hospital was also referred back. A further paragraph commenting on a resolution of the Representative Body recommending that all medical grades of so-called "whole-time" hospital staff should be allowed to pursue the practice of their profession in their off-time duty, and which after consideration was opposed by the Committee, was withdrawn.

The remainder of the report was adopted.

Private Practice Committee

Dr. ALEXANDER BROWN presented the report, which included a report on the negotiations with the Treasury on fees for part-time services by general practitioners for Government departments. One outstanding matter, the fee for a full examination and report in a single case, remained to be settled. The Committee recommended that the Treasury be informed that the Association considered that the fee for a comprehensive medical examination should be at least £2 2s., but would accept the offer of 37s. 6d. for this service without prejudice to the reopening of negotiations at an early date. The recommendation was agreed to.

Dr. HALE-WHITE asked if there was anything to report on the question of drugs under the National Health Service for private patients.

Dr. BROWN replied that there had been a joint meeting of the Private Practice Committee and the General Medical Services Committee, and a report of this meeting would be considered by each Committee at its next meeting. What the result would be he could not say at the moment.

The report was approved.

Finance

Mr. L. DOUGAL CALLANDER, Treasurer, presented the financial report. He said that finance was running more or less in the way he predicted at the last meeting, and he was still hopeful that there would be a surplus of £12,000 as against £47,500 last year. The Brighton meeting was very successful, but the cost of Representative Meetings was becoming from some points of view very high. The income from the exhibition depended on the size of the hall, and it might be necessary to consider seriously resorts where there was ample accommodation. It was never possible to accommodate all the people who wanted to exhibit. The position was more difficult than ever with the scientific exhibition. It was most undesirable to charge a registration fee, but the cost of the meeting was increasing very markedly. It had been suggested that he should be consulted on all proposals of the local executive committee involving expenditure of funds provided by the Head Office.

The report was agreed to.

Long Service of Staff

The CHAIRMAN OF COUNCIL, presenting the Office Committee report, drew attention to the retirement of Mr. W. Fish, of the accounts department, who had been in the service of the Association for fifty years. The Council agreed that suitable recognition should be made of his long and faithful service. The Committee had also considered a memorial to Miss M. E. Gregg, and was arranging for the purchase of a clock to be placed in Committee Room A in her memory.

It was also reported that Major D. D. Milne, a nephew and residuary legatee of the late Sir Ewen Maclean, had presented to the Association the silver trowel used by Sir Ewen when he laid the foundation stone of B.M.A. House in Sydney in September, 1939. The gift was accepted with gratitude and had been placed among the collection of things of historical interest at B.M.A. House in London.

Association's Publications

Dr. J. G. M. HAMILTON presented the report of the Journal Committee. He said that, for the ten months to October 31, the increase in the cost of production and dispatch was 7½% over the corresponding period in 1955. It was expected that there would be an overall net deficit on the publications for 1956 of about £900. This figure was reached after writing off stocks of the third collection of *Refresher Course for General Practitioners* published in October. £900 represented 0.2% of the turnover.

In response to a request, the Committee had decided to make the *Journal* available to dental and veterinary students at cost price.

Following a complaint by the Breconshire Local Medical Committee regarding the reporting of medical matters in the national press on the same day as the *Journal* was published, a representative of the local medical committee attended a meeting of the Journal Committee by invitation. He stated that his committee felt strongly that the *Journal* should not be released to the press until Friday, the day of publication, so that members who received their copy that day would be aware of the contents of the *Journal* before press comment appeared. The Journal Committee decided to reaffirm its previous decision to take no action which would be likely to harm the Association's relations with the press.

Dr. ANNIS GILLIE presented the Family Doctor Committee report. She paid a warm tribute to the lay assistant editor, Miss Joyce Ward, who was leaving in March to take

up a new appointment with one of the large publishing houses. Dr. Gillie said that it seemed there would be a net financial surplus at the end of the year, and that once again the magazine had been conducted at no cost to the general funds of the Association.

Other Committees

Mr. H. H. LANGSTON, presenting the report of the Constitution Committee, recommended that an extra day be added to the 1957 Annual Representative Meeting for discussion on the final report of the Committee. The recommendation was that the A.R.M. should commence on Wednesday, July 10, and the report form the first item of business of the meeting.

This was agreed to. Mr. Langston added that the final report would be presented to the Council at its January meeting.

Dr. J. A. PRIDHAM, Chairman of the International Relations Committee, presented the report which contained the suggested revised constitution for a British Supporting Group for the World Medical Association, to stimulate interest in and provide financial support for the World Medical Association. Membership would not be confined to medical practitioners, and would confer certain benefits according to the type of membership taken up. The recommendation to accept the constitution was agreed to.

The Annual Representative Meeting, 1956, had instructed the Council to continue to press the Government to ratify the Geneva Conventions of 1949, and it was agreed to send this resolution to the Foreign Office.

It was also agreed that two delegates and two alternate delegates, Dr. S. Wand, Dr. I. D. Grant, Dr. J. A. Pridham, and the Secretary, be appointed to represent the Association at the General Assembly of the World Medical Association in 1957.

Dr. H. H. D. SUTHERLAND presented the report of the Amending Acts Committee. He said that the Committee had discussed with Dr. J. B. Mathieson, Chief Medical Officer, Australia House, the various schemes which formed the Australian Health Service, and the information which he had given would be fully studied at the next meeting.

The CHAIRMAN OF COUNCIL presented the report of the Rehabilitation of Disabled Persons Committee in the absence of the chairman and any members of the Committee. The Committee had studied Recommendations 1, 2, and 32 of the Piercy Committee's report, and sought for authorization to discuss the matters raised therein with the Ministry of Health, together with such representatives of other Government departments as the Ministry of Health considered desirable. This was agreed to. Other recommendations (which were agreed to) dealt with the way in which the Committee proposed that the subject of rehabilitation might be brought to the notice of general practitioners. The Committee wished to explore the possibility of publishing a series of articles in the *British Medical Journal* on aftercare in various conditions, and recommended that the attention of the British Postgraduate Medical Federation and of postgraduate medical deans be drawn to it. It was also recommended that the General Medical Council be approached on the possibility of rehabilitation being included in their recommended subjects, and that papers on the medical and social aspects of aftercare be included in the annual scientific meetings of the Association. Lastly, that consideration be given to the possibility of the Annual Meeting in Birmingham in 1958 having as a central theme the medical and social aspects of aftercare, with special reference to the rehabilitation of the disabled.

All these reports were accepted. The reports of the Film Committee, the Central Ethical Committee, and the Maternity Services Committee were approved.

Other Business

From the observations of members of Council it was obvious that there is a good deal of unevenness in the allocation of petrol to doctors. The Ministry of Fuel and Power is to be asked to look into it and to issue uniform instructions to the petroleum officers in all areas.

It was reported that Sir Tudor Thomas had accepted nomination for election to the council of the British Red Cross Society to represent the Association. Dr. H. D. Chalke and Dr. J. B. Tilley were appointed to represent the Association at the 1957 Congress of the Royal Society of Health, and Dr. A. Barker was elected to serve on the Joint Committee of the Association and the Magistrates' Association in the place of the late Dr. Denis Carroll. A report was received from Dr. F. A. Belam on the conference on supplements and additives to feeding-stuffs for animals held by the British Veterinary Association in November.

Plans for a study tour to Denmark in 1957 were announced. The tour is being arranged by the representative of the Danish Institute in Great Britain and will take place from September 1 to 12.

The CHAIRMAN OF COUNCIL said that he was authorized at the last meeting to make an appeal through the columns of the *Journal* for Hungarian refugee doctors if he felt it necessary. He had kept in touch with the Office throughout, and the problem was a difficult one. There were about 36 such doctors here; some wished to remain, others did not. Some of the doctors had already been helped financially, others would need help to qualify. It was proposed that a conference of the various interested bodies should be held to examine the problem in all its aspects. There were also some British doctors now in this country who had been turned out of Egypt, and these also were being assisted where needful. The fund used was the Charles Hastings Fund. It was agreed that the profession should give such assistance as it could to the Hungarian refugee doctors.

BRITISH MEDICAL GUILD

A meeting of the Board of Trustees of the British Medical Guild was held at B.M.A. House on December 19, with Dr. S. WAND in the chair.

The Board of Trustees considered whether, in view of the present position of the remuneration claim, the local machinery of the Guild should be put into operation.

Dr. J. A. L. VAUGHAN JONES moved that the Guild machinery be put into operation, and this was seconded by Dr. A. V. RUSSELL and carried unanimously.

In reply to Dr. H. H. D. SUTHERLAND, Dr. MACRAE, Secretary, said that "setting the machinery in motion" meant inviting the hon. secretary of each local Division of the British Medical Association to act as convener of a meeting of the whole profession in his area, in order to set up a local committee of the Guild. The local committees would then arrange convenient groups of doctors and appoint conveners of groups, meetings of which would be held for discussion on the position.

It was agreed to inform the trustees of the various defence trusts of this decision, and that the Negotiating Committee should also be informed of the action which the Board was taking.

HUNGARIAN DOCTORS

Members who know of Hungarian doctors needing advice or help should get in touch with Brigadier H. A. Sandiford, Medical Director, International Medical Visitors' Bureau, B.M.A. House, Tavistock Square, London, W.C.1. The majority of the 45 doctors known to have arrived here have been interviewed at the Bureau and advised on registration and the prospects of practice in this and other countries. A few have obtained temporary registration for hospital work. The B.M.A. has given each a small donation. Several doctors and their families are receiving hospitality from British medical hosts for a few weeks.

OPHTHALMIC GROUP COMMITTEE

A meeting of the Ophthalmic Group Committee was held on December 14 at B.M.A. House, with Mr. O. GAYER MORGAN in the chair.

Spectacles for Hospital Patients

The Committee has several times discussed the tendency of patients to leave the hospital eye service because of the narrow range of spectacle frames provided, and their inability to have National Health Service lenses fitted to private frames. The matter was again raised with the Ministry on the revision of the Supplementary Ophthalmic Service regulations. The Ministry replied that it was well aware of this problem, which had been repeatedly considered. There were two serious difficulties, the first being that there was no power under which hospitals could purchase and supply to patients frames outside the National Health Service ranges—hospitals could only supply and charge in accordance with the statement of fees and charges, unless special frames or lenses outside that statement were prescribed by the hospital ophthalmologist as clinically necessary for a particular patient. The second difficulty was a practical one. New types of commercial frames were constantly appearing, and the department could not examine them all and fix a charge appropriate to the hospital eye service. It was doubtful, concluded the Ministry, whether a charge could be fixed for a single type of "private" frame which could preserve the principle that the hospital service did not seek to make a profit nor to compete unfairly with commercial firms.

The opinion was expressed that all that was necessary was to extend the hospital range by two or three further frames—for instance, the "library" frame. If this were done hospitals would be able to retain many of their patients. A survey had been carried out in one hospital, and it was found that 75% of patients chose from two types of frames; 10% chose one particular frame; and 10% chose one out of six other frames, so that ten types of frames were in demand to suit 75% of hospital cases. Last year this particular hospital dispensed 54% of its ophthalmic prescriptions. It was suggested that the Ministry should be informed of these figures and asked to agree to the provision of a limited number of additional frames. A wider range had been agreed to for children.

Another point which had arisen under the revision of the Supplementary Ophthalmic Service regulations related to the remission of charges where glasses were repaired or replaced, to which the Ministry had replied pointing out that glasses supplied privately, but of a type suitable for repair with parts supplied under the Supplementary Ophthalmic Service, could in principle be repaired free of charge at the discretion of the Ophthalmic Services Committee. Only glasses supplied under the Supplementary Ophthalmic Service could be replaced free of charge.

Rehabilitation of Disabled Persons

At the request of the Association's Rehabilitation Committee the Committee considered recommendations contained in the Piercy report relating to blind persons. The Piercy Committee recommended that the provision of work for the blind under section 29 of the National Assistance Act should be a duty of the local authorities, carried out under the powers to be given to them by the Disabled Persons (Employment) Act. Expenditure incurred by local authorities for social rehabilitation should rank for a grant. It further considered that the provision of a placement service specially for the blind led to a patchwork of administration resulting in a service for the blind inferior to that available for other classes of disabled persons. The Piercy Committee recommended, however, that the Ministry of Labour should assume full responsibility for ensuring that the placing of the blind was put on a satisfactory footing and should provide the placement service, thus relieving local authorities of the responsibility. Local authorities and voluntary organizations were at present carrying out the work satisfactorily, and should continue to do so if they wished, at any rate for the time being.

The Ophthalmic Group Committee expressed the view that it would be better not to mix services for the blind with those for other persons, and that the employment by local authorities of voluntary organizations to care for blind people was working satisfactorily. The personal contact made possible by the present arrangements for co-ordination of facilities should be preserved.

Lenses for Reading-glasses

As reported at the last meeting of the Committee, the Ministry of Health had been considering the policy to be adopted now that production of flat lenses had ceased. It was reported to the Committee that a letter had been received stating that the existing provision for the supply of flat lenses for reading-glasses under the N.H.S. would continue until December 31, and from January 1, 1957, curved lenses would be provided for all glasses without extra charge, except in cases where flat lenses were desirable in the interests of the patient. Where flat lenses were provided in such cases the charge would be the same as for curved lenses. The statement of fees and charges would be amended to give effect to this policy.

The CHAIRMAN reported that the Joint Committee of the Ophthalmic Group Committee and the Faculty of Ophthalmologists had finished its series of meetings on future policy. The report was practically ready, and copies would be sent out to its constituent bodies early next month for discussion.

MEDICAL WAR RELIEF FUND

SIXTEENTH ANNUAL REPORT

The year ended August 31, 1956, is the sixteenth since the formation of the Fund. Looking back over the early years, it is well to record that it was due to the foresight of the late Dr. G. C. Anderson (Secretary of the British Medical Association) that the Fund was established. It was realized that as a result of the war medical practitioners and their dependants might find themselves in unexpected financial difficulties. Not only was there risk to life during active service with the armed Forces, but there was risk also in civil life from air raids. In addition, evacuation of patients brought great changes to many practices.

Dr. Anderson sought the experience gained by the Royal Medical Benevolent Fund from the War Emergency Fund, which was established during the 1914–18 war.

An appeal was issued by the Presidents of the British Medical Association, the Royal Colleges, and the Royal Medical Benevolent Fund. Contributions quickly reached the office from members of the profession, and great generosity was shown by those overseas. A total of £84,643 was subscribed; the total distributed to date in gifts and loans amounts to £83,245.

For the year ended August 31, 1956, the amount awarded in gifts was £2,407 9s. 8d., of which were:

15 Awards for education (schools and universities)	£1,276	0s.	0d.
8 Awards for maintenance ..	£887	0s.	0d.
6 Awards for special gifts ..	£244	9s.	8d.
	£2,407	9s.	8d.

All the children who have been helped have done well, and their reports are satisfactory. It is gratifying to know that one boy has just completed his medical training, and it is anticipated that another student will qualify during the coming year. A girl has been accepted as a student at University College and a boy has gained a Foundation Scholarship at Epsom College.

It is not possible to forecast the exact figure which will be needed to meet future requirements for school fees, but

it is hoped that the present available funds will enable those boys and girls now receiving assistance to complete their education.

Awards for maintenance have been made to ensure continuity of help in needy cases, and this year six special grants were given, all being for unexpected emergencies.

The Committee has received continued and much-appreciated help and advice from the Royal Medical Benevolent Fund and the Royal Medical Foundation of Epsom College. The Committee wishes particularly to refer to all the work undertaken by Mr. Pennefather, of the R.M.B.F., Secretary of the Distribution Subcommittee. He has held the office since the inception of the Fund, and it is with sincere regret but most grateful appreciation of all his work that the Subcommittee bids him farewell on his retirement.

The Secretary of the Fund (Dr. A. V. Kelynack) will take over the Distribution Subcommittee, and all correspondence should be addressed to her at B.M.A. House.

The Committee wishes to express its gratitude to the officers of many benevolent funds, secretaries of B.M.A. Divisions, and other friends for their helpful advice and co-operation, and particularly to Messrs. Price, Waterhouse & Co. for their services as Honorary Auditors.

The audited statement of accounts for the year ended August 31, 1956, is appended to this report.

E. A. GREGG,
Chairman.

STATEMENT OF ACCOUNT—AUGUST 31, 1956

	Accumulated Totals to August 31, 1955	Transactions of Year ended August 31, 1956	Accumulated Totals to August 31, 1956
Income:	£ s. d.	£ s. d.	£ s. d.
Donations received	84,633 15 11	9 9 0	84,643 4 11
Interest on investments	7,326 19 7	174 15 3	7,501 14 10
Total Income	£91,960 15 6	£184 4 3	£92,144 19 9
Expenditure:			
Loans, less repayments and amounts converted into gifts	13,226 10 0	(2,051 10 0)	11,175 0 0
Gifts	68,148 14 11	3,869 5 7	72,018 0 6
Total Awards	81,375 4 11	1,817 15 7	83,193 0 6
Administration expenses	2,775 4 8	214 2 10	2,989 7 6
Losses on realizations of investments	324 11 2	437 5 3	761 16 5
Total Expenditure	84,475 0 9	2,469 3 8	86,944 4 5
Surplus (subject to depreciation in value of investments):			
Balance at August 31, 1955	7,485 14 9		
Excess of expenditure over income for the year		(2,284 19 5)	
Balance at August 31, 1956			5,200 15 4
	£91,960 15 6	£184 4 3	£92,144 19 9

NOTES:

1. The surplus of £5,200 15s. 4d. at August 31, 1956, was represented by:

	£ s. d.	£ s. d.
Investments at book values at August 31, 1955	6,985 18 9	
Less: Sold during year	2,000 0 0	
(Market value at August 31, 1956—£3,975)		4,985 18 9
Sundry debtor		7 4 1
Balance at bank		207 12 6
		£5,200 15 4

2. At August 31, 1956, gifts amounting to £1,275 had been approved for future payment over a period of years.

Report by the Honorary Auditors.—We have examined the above statement with the books and records of the Fund and have found it to be in accordance therewith. We have not obtained independent confirmation of the balances of loans outstanding amounting in total at August 31, 1956, to £11,175.

3, Frederick's Place,
Old Jewry, London, E.C.2.
December 13, 1956.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

The Ministry of Health's booklet, *National Health Service Superannuation Scheme (England and Wales): An Explanation*, has been revised again to take account of changes made by the N.H.S. (Superannuation) Regulations, 1955, and Superannuation (Local Government and N.H.S.) Interchange Rules, 1955. The booklet deals, as simply as possible, with contributions, benefits (including examples), reckoning of service, and special provisions for doctors and dentists in the general-practitioner services. New entrants to the scheme get a free copy; it is also on sale at the Stationery Office, price 1s.

GENERAL MEDICAL SERVICES COMMITTEE

The General Medical Services Committee met on December 20, with Dr. A. B. DAVIES in the chair. Also attending the meeting were Dr. S. Wand, Chairman of Council, Dr. I. D. Grant, Chairman of the Representative Body, and Mr. L. Dougal Callander, Treasurer of the Association.

Dr. H. Guy Dain Honoured

The Annual Conference of Local Medical Committees, having approved the proposals for the institution of the Claire Wand Award for outstanding services for general practice, the Trustees of the Claire Wand Fund recommended that the first award be presented to Dr. H. Guy Dain. With the present session Dr. Dain will have completed 40 years' service on the G.M.S. Committee and its predecessor, the Insurance Acts Committee, of which he was chairman for 11 years. This long period of devoted and outstanding service had contributed so much to the cause of the general practitioner and his work that the Trustees felt that such recognition as they could bestow could not be more highly deserved.

Dr. W. M. KNOX, one of the two remaining members of the Committee who were also members of the old Insurance Acts Committee, said that he was a member of that body when Dr. Jonas died suddenly and Dr. Dain took over the duties of Chairman. He congratulated Dr. Dain and thanked him for the great services he had rendered.

Dr. F. GRAY said that he also was a member in the interim period, and he particularly remembered the struggle with the Ministry of Health under Dr. Dain's leadership. He would add his tribute to Dr. Dain, who was then laying the foundations of work which had since been carried to fruition.

The recommendation was carried with acclamation.

Dr. DAIN, in response, said that it was difficult to say anything at all; it was rather overpowering to find this item at the beginning of the agenda. He was not unappreciative of what had been said, but he had enjoyed it all. The work had been an interesting experience over the years. To have the first award of the Claire Wand Fund was very gratifying, and he thanked the Committee for the way he had been received that morning.

The CHAIRMAN welcomed Dr. Harding, a new member of the Committee.

Central Pool

The Ministry of Health having contended that the Committee should now suggest some means of arriving at a reliable estimate of the earnings of general practitioners in the National Health Service from private practice, a meeting was held by officers and officials of the Association with Professor Allen and the Association's accountant to discuss the matter. The Ministry, it was reported, have now been informed that the Committee would not agree to any inquiry into this matter which relied upon any sort of self-selected sample or which involved the use of figures derived from any source other than an inquiry designed solely for the purpose. The Committee was anxious to obtain a more up-to-date assessment of private earnings, since it was convinced there had been a steady decline since the issue was decided by Mr. Justice Danckwerts in 1952, but it was essential that a large-scale inquiry must be undertaken if the figure was to be assessed at anything like a reasonable degree of accuracy. The view was that a sample of less than 75% of all general practitioners would give a distorted figure. In addition it must ascertain how widely varied was the distribution of private-practice earnings and how much of what private practice remained was undertaken by older practitioners. The accounts on which the inquiry would be based would need to be related to the actual earnings for the year in question.

Drugs for Private Patients

A report of the joint meeting between the Private Practice Committee and the G.M.S. Committee held in November was received and discussed, and it was agreed that if

the Private Practice Committee decided to set up a sub-committee to go further into the matter the G.M.S. Committee would afford full support.

Publication of Annual Report

The Committee considered suggestions which had been received from the Editor of the *British Medical Journal* with regard to the publication of the Committee's Annual Report in the *Supplement*. The Editor expressed the view that it would be in the interests of the Committee if a much shorter version of the report was published, which would include the features of particular interest to the profession at large and those which the Committee wished to have stressed. The Editor thought that if the editorial staff could feel free to present in attractive fashion the outstanding portions of the report in about eight pages of the *Supplement* the work of the Committee would become more widely known. The work would be done in closest collaboration with the Secretary and with the approval of the Chairman of the Committee.

After a short discussion it was agreed to accept the Editor's suggestion, and it was left to the Chairman and the Secretary to determine in consultation with the Editor how best to distribute the full report to those for whom it was essential.

Remuneration Claim

The CHAIRMAN said that on the invitation of the Chairman of Council he had attended the Council meeting the day before and had addressed the meeting in order to bring the Council up to date on this important matter. He hoped that his action would be approved in view of the importance and urgency of the issue. (Agreed.)

Dr. Davies then gave an account of his speech to the Council (see "Proceedings of Council," at page 1). He added that when general practitioners came into the Service they did so on the promise of the Minister that both the Spens reports would be implemented. The Minister's statement was recorded in *Hansard*. The letter from Sir John Hawton stating that no contractual obligation enforceable in law existed was beside the point, and there had been several letters backwards and forwards asking the Minister for more details which had not yet been forthcoming (*Supplement*, December 29, p. 227). In a letter dated December 3 Sir John Hawton stated that the issue was twofold—one a general claim for increased remuneration and the other the contractual obligation. On the first, the Minister had decided that under present economic circumstances he could not at present consider it, and on the second he said there was no contractual obligation enforceable in law.

There was a moral as well as a contractual obligation between the Minister and the profession. The Negotiating Committee had not retreated one inch from its position nor surrendered a farthing of the claim. The Negotiating Committee would meet on January 3 and a deputation would see the Minister the next day.

Dr. S. WAND (Chairman of Council) said that the Minister promised a reasoned reply based on the advice of his legal advisers to the Committee's supplementary memorandum. This had not come. He did not think, however, that anybody had believed the question would be solved immediately, and so far the Minister had not been willing to discuss the merits of the case. It was clear that decisions would have to be made in the near future on the kind of action to be taken, and the Council of the Association had decided to call a meeting of the British Medical Guild, which had the necessary power to carry out the fight. The Board of Trustees of the Guild had decided that the machinery of the Guild should be prepared, and instructions were now going out to all secretaries to overhaul the machinery in the various areas. Neither the Council nor the Guild could take any further action at the moment. It was in the hands of the Negotiating Committee, which was a Joint Committee.

Dr. O. C. CARTER, speaking as a member of the Spens Committee, said it was agreed that the Spens Report should be binding on the profession and the Government, and the greatest possible care was taken in forming the recommendations. At the time the profession was told that Spens was the yardstick for all time for adjusting remuneration. Although as a purely private practitioner he was not directly concerned in the dispute, he thought the strongest possible steps should be taken to see that the promises made in 1947–8 were implemented.

Dr. KNOX, as another member of the General Practitioner Spens Committee, agreed with what Dr. Carter had said. The Spens Committee reviewed the remuneration of the general practitioners, and the Danckwerts award provided the means of adjusting it to particular times.

Dr. J. C. ARTHUR reminded the Committee, as he had reminded the Council, that the Minister was bound by Parliamentary policy which was affected by present inflationary trends. Extra money awarded to any profession would produce that much more inflation, but in his desire to combat inflation the Minister was degrading the status of the doctor. Spens must be re-established.

Dr. B. CARDEW said that Parliament had not repudiated Spens, but one had to accept that Parliament had been compelled to override all sorts of previous decisions. Whatever happened, Spens must not be allowed to slip. If the Government were allowed to adopt the position that Spens was no longer the yardstick, the profession would be in an intolerable position. The moment was approaching when action and timing would have to be clearly thought out. Was the Negotiating Committee thinking ahead?

The CHAIRMAN said that the remit of the Negotiating Committee, which was composed of members from the Committee, the Joint Committee, and three public health members as observers, was to prepare the case and conduct the negotiations.

Dr. I. D. GRANT pointed out that the attitude of the Royal Colleges and the Joint Consultants Committee in case of a fight was not known, and Mr. NICHOLSON LAILEY, speaking as a private individual, said that it was essential that the Guild machinery should adequately represent consultants and general practitioners. It would be the opinion of the consultants at the periphery which would affect the central consultants.

Dr. M. SORSBY pointed out that the longer the matter went on the lower would become the doctor's remuneration in relation to the cost of living, and more and more practitioners would get deeper and deeper into financial difficulties. What did the Negotiating Committee propose to put before the profession?

Dr. A. BROWN said that if the Negotiating Committee had reached an impasse it became a question of what the profession was going to do, and information as to what the profession thought would be obtained through the Guild.

Dr. H. C. FAULKNER said that the Committee could not afford to wait for the machinery of the Guild; general practitioners were expecting a clear lead now.

Dr. B. BURNS did not see why the profession should indulge in this bickering with the Ministry for three or four years. He could not see that anything had been done to improve relations between doctors and their patients. The reply of the Minister gave the opportunity to look into the Service as a whole; terms of service were wrapped up with the terms of remuneration. He did not think the Committee was as familiar as it should be with opinion at the periphery. Doctors were far more concerned with the nature of the Service than they were with the question of remuneration. This might be the last opportunity to effect an alteration in the Service.

Dr. A. M. MAIDEN said that the lead had to come from the British Medical Association. The average practitioner did not understand the set-up of the Negotiating Committee, but he understood the British Medical Association.

The CHAIRMAN said he gathered that the Committee supported the actions of its representatives. He did not think the Negotiating Committee should be rushed with a resolution urging precipitate action. He would suggest a resolution on the lines that the G.M.S. Committee, having heard a report from its acting chairman on the progress of

negotiations to date, and having learned that a further meeting of the Negotiating Committee and a meeting with the Minister were due to take place, pledged its full support to its representatives on that Committee, and asked to be informed without delay of the outcome of the meeting with the Minister so that it might consider subsequent action.

This resolution was carried unanimously, and it was decided to send copies to the Negotiating Committee, to local medical committees, and to the *Journal*.

Action of the N.I.D. Trust

A meeting of the Trustees of the National Insurance Defence Trust was held during the day. It was reported that the Council of the Association was setting the machinery of the Guild into operation but that the Guild had no funds of its own. It was right that the Trust should be the first to make a contribution to the Guild's funds, said Dr. KATE HARROWER, the Hon. Treasurer. At the moment it would be a guarantee of money which could be drawn on as and when desired, and she suggested that £10,000 should be made available from the Trust funds if it was needed.

This was agreed to unanimously.

The Trustees also agreed to bear the cost of subsistence allowances attributable to the G.M.S. Committee and members of the Conference, in conformity with the decision of the Representative Body to pay subsistence allowances to members attending central meetings.

Rural Practice

Dr. C. F. R. KILLICK presented the report of the Rural Practices Subcommittee. He said that the Subcommittee considered the resolution of the A.R.M. which stated that doctors found it impossible to co-operate fully in the economy in prescribing drive because of advertising methods. But the Subcommittee felt that there was little purpose in going to the pharmaceutical industry and that the resolution should be referred to the Association's committee appointed to go into the matter of prescribing. The list of specially expensive drugs should be left as it was at present.

The most important item of the report was the interim report of the Mileage Committee. The Subcommittee expressed its concern at the manner in which a minority report had been sent to the Ministry without prior consultation and after the report had been agreed.

The Mileage Committee recommended that none of its recommendations should be implemented until the final report was available and had been given to the medical profession, to local medical committees, to the G.M.S. Committee, and to the Conference, and only after it had been agreed upon by these bodies should any recommendations be implemented. The present report was only an interim one, and the Subcommittee felt that the Minister should be informed that the Committee could not at this stage discuss these recommendations with officials at the Ministry. Provisionally, and pending the final report on the matters still outstanding, the proposals contained in the interim report should be approved.

In reply to a question on the delay, Dr. Killick said that the problems of mileage were very big. They had not been dealt with for many years, and to get a scheme to suit all areas was almost impossible.

It was agreed that the interim report should be received and that no exception should be taken to the proposals. Dr. Killick was warmly thanked for his patience and perseverance in a difficult matter.

Prescription Charges

The CHAIRMAN reported that a press conference was held on the action of the Minister in imposing the 1s. per item charge on prescriptions. It was well attended and good publicity resulted. It was reported that the Rural Practices Subcommittee supported the action of the Committee, and that several letters opposing the imposition of the charge had been received.

Elimination of Inflation

The CHAIRMAN OF COUNCIL reported that the Distribution Committee had been informed that the Minister had agreed to set up an alphabetical register in an endeavour to eliminate inflation of doctors' lists. It was said that the cost of any register other than an alphabetical register would be prohibitive.

It had been agreed at an earlier meeting to ask an outside firm of business consultants to look into the problem, and a question was raised whether these inquiries should be pursued. It was decided to ask the Ministry to confirm that the Minister had agreed to the formation of an alphabetical index, and, if so, that the outside inquiries be discontinued.

Trainee General Practitioner Scheme

A report was given of a meeting at the Ministry of Health at which the report of the Trainee General Practitioner Subcommittee, which had been approved by the Committee and the Conference, was discussed. Mr. D. C. BOWIE, who led the deputation, said that the Ministry asked that they might have an observer on the advisory body which was to be set up to review the future of the scheme, and the representatives thought there would be no objection to that. The second point was that where any question of appeal arose, unless both parties agreed to a local hearing, the appeal should be heard under the regional organization proposed. Thirdly, the Ministry were quite in agreement with the lowering of the present minimum list of 2,000 patients, provided that the circumstances of the practice enabled sufficient training to be given. Fourthly, the Ministry undertook to bring to the notice of every university throughout the country the value of the courses for trainers organized by the British Postgraduate Medical Federation in London. The Ministry were sending out a letter to executive councils asking them to study the report and consider how best the recommendations might be adopted locally. A letter would also be sent to local medical committees from the Secretary of the Committee amplifying the section of the report relating to appeals.

The CHAIRMAN said that it was most satisfactory that the Ministry had accepted the recommendations practically *in toto*. The report was accepted and the draft letters approved. It was also agreed that the Committee should pay the expenses of G.M.S. Committee members who sat on the appeal body in the same way as for other tribunals. The Committee expressed its appreciation of Mr. Bowie's chairmanship of the subcommittee.

Payment for Examination of Employees

The Joint Consultants Committee had been considering the operation of paragraph 14 of the Terms and Conditions of Service of hospital medical staff which excluded from the National Health Service the examination and reporting upon employees or prospective employees at the request of the employer. Consequently fees could be claimed and retained by hospital medical staffs for this work, except where the patient was referred to hospital by a medical practitioner for a second opinion, when no fee could be charged. This created a difficulty, and the Joint Committee took the view that in such cases the consultant should be entitled to a fee as he would be if the employee was referred to him direct. The Ministry, however, took the view that if the general practitioner required a consultant opinion the latter must do the work within his contract. The Joint Consultants Committee decided to seek the views of the G.M.S. Committee before taking the matter further.

Professor CLOAKE explained that the general practitioner was not necessarily a practitioner in the National Health Service, and he understood this was a service paid for by the employer. The general practitioner should give the report asked for on the basis of his own examination and responsibility. If in the course of his examination he found grounds for a more extensive examination, and if that included obtaining the opinion of a consultant, he should do it later after sending in his report. The obtaining

of the opinion of a consultant was obviously to the advantage of the patient, and consultants would have no objection to giving an opinion if that was all they were asked for. It was where an opinion was asked for and used in the report to the employer that unfairness arose.

After a little discussion the CHAIRMAN said that there were two lines of action for the general practitioner. Either he felt that for his own benefit, as the patient's doctor, the consultant's opinion was necessary before he committed himself, or that it was in the patient's interest. Where a consultant's opinion was desired purely from the point of view of compensation or for an employer's information a fee should be paid to the consultant. This view was concurred with by the Committee, and it was agreed to so inform the Ministry and the Central Consultants and Specialists Committee.

Other Business

A letter was received from the Ministry of Health stating that further consideration had been given to the question of the payment of expenses of candidates for appointments attending interviews at a distance from their homes, and that it was agreed that general practitioners in contract with an executive council would be reimbursed at the rates payable to Health Service officers in the higher subsistence category when attending interviews for hospital appointments, and the same rates would apply in respect of applicants for general-practitioner vacancies. This was accepted.

It was also reported that the Department of Health for Scotland had agreed to the appointment of a separate committee to investigate prescribing in Scotland. The Committee would also investigate the question of hospital prescribing.

Scottish News

GENERAL MEDICAL SERVICES SUBCOMMITTEE (SCOTLAND)

A meeting of the General Medical Services Subcommittee (Scotland) was held in the Glasgow Regional Office on Tuesday, December 11, with Dr. C. J. SWANSON, of Aberfeldy, in the chair.

Membership of the Subcommittee

The Subcommittee received with regret the news of the death of two of its senior members, Dr. Benjamin Hutchison, of Cambuslang, and Dr. D. Dale Logan, of Newmains. Tribute was paid to the valuable services rendered by these two practitioners during their terms of office.

Dr. D. Livingston Kerr, of Lanarkshire, Dr. James Watson, of Thornhill, and Dr. D. M. F. Batty, of Edinburgh, were welcomed to their first meeting.

Mileage

The news that the Mileage Committee for England and Wales had published its report was received with interest, and it was agreed that, although this report applies only to England and Wales, it would be very helpful if it could be seen by the Subcommittee's Rural Practitioners' Subcommittee.

Prescribing Costs

The Subcommittee received with satisfaction information from the Department of Health, in connexion with the proposal to appoint a United Kingdom Committee to examine prescribing costs, that, following representations from the Subcommittee, a separate committee would examine the position in Scotland, and that its terms of reference will cover prescribing in the hospital service as well as in general practice.

Prescribing

It was reported that, following a request from the Subcommittee, the Department had agreed to add tube gauze to the schedule of prescribable appliances, provided it was restricted to prescribing on form E.C.10A. The Subcommittee agreed to the Department's suggestion.

Smallpox Vaccination Publicity

The Subcommittee considered a proposed circular from the Department to executive councils drawing attention to a vaccination publicity poster which might be obtained for general practitioners who wished to display it in their consulting-rooms. The Subcommittee agreed both with the contents of the circular and with the poster.

Scottish Medical Practices Committee

The Subcommittee agreed to nominate Dr. James Watson, of Thornhill, for appointment to the Scottish Medical Practices Committee in place of the late Dr. Benjamin Hutchison.

Elimination of Inflation

The CHAIRMAN reported that this important subject had been discussed with representatives of the Department at the last routine meeting, and that it had been agreed that the Department would request the Ministry of Health to arrange for a joint meeting with the Minister of Health and the Secretary of State, when representations could be made regarding the urgency of introducing measures to combat the apparent increase in inflation. It had also been agreed that the representatives of the Subcommittee would ask the General Medical Services Committee to approach the Ministry with a similar request.

Sickness among Hospital Staffs

The Subcommittee considered a letter from the Dundee Local Medical Committee about a departmental memorandum dealing with the general question of sickness among hospital staffs, and issued by the Eastern Regional Hospital Board to boards of management. The Dundee Local Medical Committee was concerned about the possibility that, if certain of the arrangements suggested are enforced, the position of the general practitioner attending the sick member might well be undermined. It was reported that the memorandum had not been seen by the Joint Consultants Committee (Scotland), and it was agreed, therefore, that before further consideration was given to the matter the views of that Committee should be obtained.

HOSPITAL MEDICAL STAFF BOARD-AND-LODGING CHARGES

The agreement in Committee B of the Medical Whitley Council on a scale of charges payable by resident medical staff in the hospital service, of which preliminary notice was given in the Ministry's circular letter to hospital authorities dated July 25, 1956 (see *Supplement*, August 11, p. 99), has now been published in detail in a Ministry memorandum (H.M.(56)107) and M.D.B. Circular No. 34.

The memorandum points out that various questions relating to board and lodging are still under consideration by a subcommittee of Committee B. The most important of these is the question of accommodation standards, and this is now under active discussion by the subcommittee.

N.H.S. STAFF PAY INCREASES

National Health Service administrative and clerical staff earning up to £1,200 a year have been awarded a 3% increase in salary on the basis of the rise in the cost of living since February 1, 1956. Another industrial court award gives an immediate increase of 5% on the basis of the rise in the cost of living since September 1, 1955, to N.H.S. dispensing assistants. Medical laboratory technicians in the Service will also receive an immediate 5% increase in salary.

Correspondence

Because of heavy pressure on our space, correspondents are asked to keep their letters short.

Reform of Health Service

SIR,—It is evident from the many letters written by practitioners from all over the British Isles that there is growing dissatisfaction with the working of the National Health Service and that "leadership by the B.M.A." is being demanded. I believe that the initiative for change must come from the periphery, so that "the B.M.A." can know the numbers and views of those they will have to represent. The practitioners need a standard round which to rally, an alternative scheme which they can discuss and vote upon in the Divisions and then instruct their representatives accordingly.

I hope to offer a scheme which will serve as a basis for discussion and amplification. In doing so I am assuming that it is the policy of both the "great" political parties that a National Health Service free to all users should exist, and it can also be assumed that the majority of the patients also think so—for complaints from the public are few. For this reason the National Health Service will have to be modified, and in such a way as to (1) be in the best interests of the patient, (2) ensure professional freedom from pressure of, or allegiance to, a "third" party, and (3) maintain a fair form of remuneration. Best interests of the patient would be served if they were permitted to attend the doctor of their choice as required and not to have to "register" with one particular doctor. It would help restore the doctor–patient relationship if the choice of doctor were free each time advice was sought, and the patient would then be that doctor's "patient" only as long as he consulted him, as has always been the case in private practice. Administratively, this would mean that the patient would be regarded much as the "temporary" patients are at present, and a duly completed record card would be forwarded to the executive council promptly and fully completed (for the remuneration would depend on it). Professional freedom can only be ensured by the return of ownership of goodwill to all practitioners. When filling vacancies the successful applicant would have first option on the purchase of the goodwill of the practice. In this way an industrious, good practitioner could, by his work and skill, increase his practice and its value to him, and his wife would more willingly devote her life to a tangible asset rather than feel herself the unpaid servant of an impersonal State service.

A fair form of remuneration would be ensured by means of payment per item of service. It can be envisaged that a global sum allocated out of general taxation funds to a new National Health Service might be no larger than the present sum, but that its distribution would be in accordance with the services rendered professionally, as shown on the "temporary" patient cards submitted, and not necessarily, as at present, to those with the most "heads" on their list. An even more effective way of restoring the doctor–patient relationship would be for the doctors to render accounts direct to their patients on an appropriate E.C. form on which could appear an approved scale of charges, and the patients could present these accounts when duly receipted by the doctors to an authority for repayment, in full or in part, depending on their incomes. This would supply an incentive for a doctor to work secure in the knowledge that he was still in that patient's confidence and was not by his enthusiasm and availability at all hours going to decrease the value of his capitation fee. The patient would also feel that he was rewarding his doctor personally and would feel that he was obtaining something worth paying for, for many regard free advice and attention as suspect of "utility" and offer to pay for private advice when really worried.

In a letter of this length I cannot enlarge upon the many benefits to both doctor and patient offered by such a scheme. I had hoped that some more eminent member of our profession would have attempted to crystallize the feelings of the practitioners in order to produce, in the widest possible terms, a standard to which all who wished for a change could rally, but none has been forthcoming and I have ventured to submit this scheme before the ardour of the many displeased practitioners is dissipated in a host of resolutions. May I ask that all those who feel that they are for such a scheme should say so without qualification at this stage?—I am, etc.,

Hildenborough, Kent. C. GLAISHER.

Unity of Purpose

SIR,—If your readers will swallow Dr. Bruce Cardew's final paragraph (*Supplement*, December 29, 1956, p. 230), they will swallow anything. Almost the only resolution of the 1956 Conference of Local Medical Committees which expressed a decision of the conference against the will of the platform was designed to mitigate the injustice of an absent principal's responsibility for the acts and omissions of his deputy. It was passed by a substantial majority, but only the vigilance of its movers resuscitated it after attempted infanticide by way of an unfortunate error of reporting in the *Journal*. The G.M.S. Committee later made no mistake about smothering the infant, however, and it was quietly laid to rest in the Committee's report, among a collection of trivia which "called for no action."

As Dr. Cardew figured prominently among the assassins, he owes it to your readers to explain how he reconciles this procedure with his brazen pieties about "considered decisions of conferences" and "the whole basis of democratic representation." Turning to Dr. Cardew's second paragraph, it is clear that he and I keep different company. It is rare for me to meet a doctor who has a good word to say for the existing system. And how could it be otherwise? A mass of regulations designed to provide sanctions against the doctor, and not a single provision for dealing with the delinquent patient. The entire fabric of capitation fee, certification, and prescribing calculated to annihilate the dignity of a great profession and the sense of responsibility of a great nation. Is it surprising that no other country has lowered itself to this level?

Your leading article "Unity of Purpose" (*Journal*, December 15, p. 1417) acknowledges the rising tide of discontent in the profession. Your call for constructive planning of a better service rather than for precipitate action is sound common sense. All must surely approve the unity achieved in our attempt to prevent the State from ratting on its promises in the matter of remuneration. But whether any useful purpose would be served by insisting upon unity between the various sections of the profession in an attempt to resolve the injustices peculiar to the general medical section is a matter upon which I am open to conviction. Experience has shown that, in the matter of remuneration, we can count upon superb leadership from the B.M.A. But yours, Sir, is almost the only B.M.A. voice we have heard raised on the subject of terms of service and the fundamental problem of the relationship of medicine to the State—surely of the greatest ultimate importance to the profession. In this respect, I have seen no evidence of spontaneous leadership by the Association, and no deference to the considered decisions of conferences by committees which are elected democratically enough, but which are thereafter exclusively autonomous.—I am, etc.,

Sheffield, 10. B. BURNS.

SIR,—In your leading article under this heading (*Journal*, December 15, 1956, p. 1417) you draw the conclusion from recent correspondence that dissatisfaction with the National Health Service as it is to-day is as great as the grievance over pay. That may be so, but if these two causes are to be considered together we shall not achieve "unity of purpose" in the profession, and through lack of the strength which comes from this we may well fail to obtain improvement at all. The remuneration claim is becoming increasingly urgent especially in relation to country practitioners, whose costs in

transport, drugs, and telephones have all risen steeply of late. The B.M.A. must represent the general agreement over our claim based upon Spens, and it must be pressed home to the Government now by stronger measures. The profession is as united over this as it can be over anything.

No reform of the N.H.S. can be considered until the financial status of the doctor in relation to society is re-established. Spens was our yardstick at the outset, and later in the hands of Mr. Justice Danckwerts. That is now being challenged again, and this challenge must be met before we dare consider changes in the National Health Service which would now confuse this vital and straightforward issue. Moreover, there is by no means a comparable unity of purpose in relation to what changes in the Service should be made. If the B.M.A. doubts this let it issue another questionary to ascertain members' views on the manifold proposals that are being made. Let us recall the time that elapsed between the issue of the first questionary and the final acceptance of the present Service that was practically thrust upon us individually while the B.M.A. as a team was still stonewalling every over from the Government.

We are not going to drop our claim to maintenance of financial status. So that, if we are also going to sue for changes in other respects, the two issues are bound to become interwoven and confused as they are in the leading article, prejudicing the success of both. No doubt Government circles would be highly delighted by such a policy. We should soon be told that remuneration was dependent upon the type of service that was finally to be decided, and the Government would be encouraged to argue about this for ever, if only to stave off a financial show-down before that ever-receding date when inflation will have been halted for ever. In spite of 1911 and 1948 I think we can overlook the "long history" of the B.M.A. if that body will now apply itself with vigour to the urgent question of the restoration of our financial position. When that is done we may well embark upon reform of the N.H.S., with all the debate and disunity that this is likely to engender amongst doctors and the public. In the meantime reform is a red herring, and those who allow it to be dragged across the trail of our degradation will be suspect. Does the B.M.A. want to encourage a diversion of attention from its failure to date on this long-outstanding and now most pressing problem of the sanctity of Spens? We cannot dodge Government bad faith by simply remounting in the old stable. It is time that the B.M.A. or some other leadership put a stop to this persistent policy of Governments consulting with our patients and their representatives the lowering of our relative status step by step. For that, from our point of view, is exactly what happens every few months when further wage claims come before Government tribunals. Everyone gets a rise except a minority, including doctors, who are apparently scheduled for ruin along with the general economy of the whole nation. The argument of a few who say that we should set an example of restraint is completely discredited by now. We have been doing that for a year or so, and there is still no sign that it amounts to anything but saving money for the Government to spend on elevating the status of nearly everyone else in relation to ourselves. By all means let us retain unity of purpose in this matter and see it through now. No Health Service will work until doctors can establish honest relations with the Government, and no such service will continue to serve the public, or retain the type of men it needs for the purpose, if we now relax our claim to equality of respect beside those who serve it in most other occupations.—I am, etc.,

Eye, Suffolk. J. SHACKLETON BAILEY.

SIR,—The leading article (*Journal*, December 15, p. 1417) headed "Unity of Purpose" is very disturbing. Hitherto the policy has been to settle the issue of remuneration first as a matter of principle, and then to consider the reform of the National Health Service. Now the position seems to be reversed, and the question of remuneration appears to be only a side issue. Then withdrawal from the Service, except—as the leading article puts it—into an alternative service, is deprecated. Now the whole point of withdrawal is that it is the only effective weapon we have if negotiations fail. If it was right to consider it before the Danckwerts Award, when there is no doubt that the threat of it was a factor in bringing things to a head, why is it wrong now? What argument is the Negotiating Committee going to use to exert pressure?

The leading article speaks of divisions in the profession which already exist. Do they exist? Are we really divided on the question of our claim? Have our leaders any evidence that the profession would be divided over a proposal to withdraw? Have we had meetings throughout the country to consider any action whatever? If there are rifts in the profession, let us know what they are, and let us discuss them and settle them. It is true that the question of remuneration is only one of a number of important questions, but it is the one with which we are concerned at the moment, and I am sure that there is no lack of unity in our purpose concerning it, only increasing anxiety at the delay. We will not help by making it part of much wider issues, however important they may be.—I am, etc.,

Tenterden, Kent. B. W. WYLLIE.

Distribution of Consultants

SIR,—The recent appointment of a new paediatrician in this area has served to emphasize the apparent, and possibly real, disparity in the distribution of consultants throughout the country.

The Health Service is called "National," and central supervision by the Ministry of Health should produce the advantage of correlating the number of consultants in each specialty with the distribution of the population, particularly if that number is limited. This does not, of course, apply to certain consultants, such as plastic and thoracic surgeons, who can only operate efficiently from special centres.

The new paediatrician appointed to this area replaces two part-time consultants, who have been given duties in other areas. This new appointment has been made at a time when the whole of Cornwall is without a consultant paediatrician. A recent paper, summarized in the *British Dental Journal*,[1] illustrates a similar uneven distribution of consultant dental surgeons.—I am, etc.,

Wroughton, Wilts. W. L. CALNAN.

REFERENCE

[1] *Brit. dent. J.*, 1956, **101**, 198.

Was it a Drug?

SIR,—I seem to remember that one of the first tenets of the National Health Service was the free availability of any drug to any patient who required it. Apart from the fact that free drugs now cost 1s. per item, the Government is attempting to restrict further the patients' rights by classifying all sorts of increasingly unlikely preparations as foodstuffs or toilet requisites.

Silicone creams, medicinal shampoos, and liver extract tablets are the latest to be charged back to the prescriber. Once charged back, one must give up an afternoon's engagements and take up the valuable time of one's colleagues to prove to them (1) that everything else in the *Pharmacopoeia* has been tried, and (2) that this was the only substance which had ever done the patient any good. Moreover, there is the ludicrous position that even one's colleagues may be deluded into finding that what is a drug for one patient becomes a toilet preparation for the next. In any event the prescriber will give up using the preparation in case he is caught again, and this is presumably what is intended.

Any cream with a lanoline base or anything which might lather could be condemned in this same way, and I see no end to this further Ministerial interference. This particular wedge is only being lightly struck as yet, but heavier blows will follow.—I am, etc.,

Pelsall, Staffordshire. T. R. GILCHRIST.

Increased Prescription Charge

SIR,—Dr. Peter A. Walford (*Supplement*, December 22, 1956, p. 225) hits the nail on the head. In common justice the whole prescription charge should be waived in the case of all over pensionable age—they have difficulty even in fetching their medicine, let alone running around claiming refunds. I would say these are the only people who have cause to complain of the increased charge. I am in the happy position of practising between a chemist's shop and a sweet-and-tobacconist's. The enormous sums poured out week by week in the latter make nonsense of the bitter complaints of hardship in the former. If the Government had provided free of charge tea, bread, sugar, or any other necessity, there would have been equally loud complaints if a shilling tax were then imposed.

This is not to say I admire this clumsy and cumbersome device for checking extravagance. The whole Health Service is obviously creaking at the joints and needs remodelling "from the ground upwards," but that is another story.—I am, etc.,

London, E.2. D. E. PEAKE.

SIR,—I presume the increased charges for medical prescriptions are an endeavour by the Chancellor to economize and save money. Allow me to suggest a better way of achieving this object—namely, by abolishing the old-age pensioners' tobacco token scheme. I believe that £15m. are spent (wasted) annually on this useless weed. If these old people smoked less or, better, not at all, there would be less illness, and in consequence less expenditure on cough medicines and expensive antibiotic drugs to relieve them of their chronic bronchitis, asthma, pulmonary tuberculosis, and neoplastic diseases, which are often brought on and aggravated by their smoking habits.

It is a well-known fact that if one of the partners is a non-smoker the other purchases the double quantity at the reduced rate and re-sells to younger members of his family. This is a shameful racket and we pay the bill. If these old folk must smoke, let them pay the full price—give them extra food, but not tobacco.

While on the subject of smoking, may I appeal to the Minister of Health to place "smoking prohibition" notices in all ambulances, sitting cars, and taxis used for the transport of patients? The absence of such notices makes it impossible for patients suffering from chest diseases to voice their objections. Recently a chronic bronchitic patient refused to travel in an ambulance unless a non-smoking journey could be guaranteed, threatening to get out if anyone attempted it. Another case was brought to my notice of a very sick man who was conveyed from his home to the Leeds General Infirmary. The smoky atmosphere made him so dyspnoeic that he refused to return by the same form of transport. He unfortunately died a few weeks later. Surely smokers could forgo their objectionable habits while being conveyed to and from hospital. It would be necessary to enforce the non-smoking rule under all circumstances, whether the vehicle was full or empty, imposing a fine for infringement.—I am, etc.,

Leeds. DAVID A. HERD.

Merit Awards

SIR,—I congratulate you on featuring Santa Claus in your Christmas number, although it was only in eight lines under the heading of "Distinction Awards" (*Supplement*, December 22, 1956, p. 222). The picture of Lord Moran making his annual distribution of a million and a quarter pounds of the taxpayers' money in the form of life annuities, pensionable sinecures, and whatnot to unnamed persons for unspecified services is indeed seasonable. It is also unique in the sense that this is the only public money spent in this country which is arbitrarily and secretly doled. But is "distinction" the right word? Can anonymous recipients be *distinguished* for unnamed achievements? I can think of several better words. What was originally an inane piece of mediaeval paternalism can easily degenerate into Hitlerism in high places with its entourage of bought men and silenced sycophants.—I am, etc.,

Beckley, Rye. C. G. LEAROYD.

B.M.A. LIBRARY

The Library service is available to all members of the Association resident in Great Britain and Northern Ireland (and by special arrangement to members of the Irish Medical Association). A copy of the Library Rules will be forwarded on application to the Librarian at B.M.A. House.

The following books have been added to the Library:

Allgöwer, M.: Cellular Basis of Wound Repair. 1956.
Anson, B. J.: Anatomy of the Head and Neck. 1956.
Atkinson, D. T.: Magic, Myth and Medicine. 1956.
Bailey, D. S. (Editor): Sexual Offenders and Social Punishment. 1956.
Barrow, R. L., and Fabing, H. D.: Epilepsy and the Law. 1956.
Bentley and Driver's Textbook of Pharmaceutical Chemistry. Sixth edition. 1955.
Berkeley's Pictorial Midwifery. Fifth edition revised by D. M. Stern. 1956.
Bett, W. R.: Sir John Bland-Sutton, 1855-1936. 1956.
Biot, R., and Galimard, P.: Medical Guide to Vocations. 1955.
Bland, J. H.: Clinical Recognition and Management of Disturbances of Body Fluids. Second edition. 1956.
Bleck, E. E., Duckworth, N., and Hunter, N.: Atlas of Plaster Cast Techniques. 1956.
Böhler, L.: Treatment of Fractures. Translated from the 13th German edition. Volume I. 1956.
Bourne, G. H. (Editor): Biochemistry and Physiology of Bone. 1956.
Burn, M.: Mr. Lyward's Answer. 1956.
Burton, J.: Crippled Victory. 1956.
Callomon, F. T., and Wilson, J. F.: Non-venereal Diseases of the Genitals. 1956.
Cantor, A. J., and Foxe, A. N.: Psychosomatic Aspects of Surgery. 1956.
Ciba Foundation Symposium on Bone Structure and Metabolism. 1956.
Ciba Foundation Symposium on Experimental Tuberculosis. 1955.
Ciba Foundation Symposium on Extrasensory Perception. 1956.
Ciba Foundation Symposium on Histamine. 1956.
Cope, Sir Z.: A Hundred Years of Nursing. 1955.
Crossen, R. J.: Synopsis of Gynecology. 1956.
Cruickshank, A. G.: Pocket Prescriber. Sixteenth edition. 1956.
Daley, R., and Miller, H.: Progress in Clinical Medicine. By various authors. Third edition. 1956.
Davson, H.: Physiology of the Ocular and Cerebrospinal Fluids. 1956.
Edelston, H.: Problems of Adolescents. 1956.
Elliott, K. A. C., *et al.* (Editors): Neurochemistry: The Chemical Dynamics of Brain and Nerve. 1955.
Evans, W.: Cardiology. Second edition. 1956.
Firkel, E.: Woman in the Modern World. 1956.
Fluhmann, C. F.: Management of Menstrual Disorders. 1956.
Fry, Sir W. K., and Ward, T.: Dental Treatment of Maxillo-facial Injuries. Second edition. 1956.
Goldberger, E.: Heart Disease: Its Diagnosis and Treatment. Second edition. 1955.
Goodale, R. H.: Nursing Pathology. Second edition. 1956.
Gorsch, R. V.: Proctologic Anatomy. Second edition. 1955.
Gowland, W. P., and Cairney, J.: Anatomy and Physiology for Nurses. Fourth edition. 1955.
Gullan's Theory and Practice of Nursing. Seventh edition revised by M. E. Gould. 1956.
Haler, D.: Sudden Death. 1955.
Hutchison's Food and Principles of Dietetics. Eleventh edition revised by V. H. Mottram and George Graham. 1956.
Jersild, A. T.: Child Psychology. Fourth edition. 1955.
Johnstone, R. W.: Midwife's Textbook of the Principles and Practice of Midwifery. Seventh edition. 1955.
Layton, T. B.: Sir William Arbuthnot Lane, Bt. 1956.
Lemkau, P. V.: Mental Hygiene in Public Health. Second edition. 1955.
Le Vay, D.: Life of Hugh Owen Thomas. 1956.
Levinson, A.: Mentally Retarded Child: A Guide for Parents. 1955.
Minski, L.: Practical Handbook of Psychiatry for Students and Nurses. Third edition. 1956.
Moroney, J.: Surgery for Nurses. Third edition. 1955.
Murphy, D. G.: They Did Not Pass By: The Story of the Early Pioneers of Nursing. 1956.
Naish, F. C.: Breast Feeding: A Guide to the Natural Feeding of Infants. Second edition. 1956.
National Association for Mental Health: Mentally Handicapped Children: A Handbook for Parents. 1956.
O'Keefe, J. A., and Schless, R.: Food and Drugs Act, 1955.
Oughterson, A. W., and Warren, S. (Editors): Medical Effects of the Atomic Bomb in Japan. 1956.
Page, I. H.: Hypertension: A Manual for Patients with High Blood Pressure. Second edition. 1956.
Percival, G. H.: Introduction to Dermatology. Twelfth edition. 1956.
Price's Textbook of the Practice of Medicine. By various authors. Edited by Donald Hunter. Ninth edition. 1956.
Pritikin, R. I.: Essentials of Ophthalmology. 1950.
Robertson, J. K.: Radiology Physics. Third edition. 1956.
Russell, W. R.: Poliomyelitis. Second edition. 1956.
Schiff, L. (Editor): Diseases of the Liver. 1956.
Smith, H. W.: Principles of Renal Physiology. 1956.
Sodeman, W. A. (Editor): Pathologic Physiology: Mechanisms of Disease. Second edition. 1956.
Soffer, L. J.: Diseases of the Endocrine Glands. Second edition. 1956.
Stanton, A. H., and Schwartz, M. S.: The Mental Hospital. 1954.
Tauber, R.: Basic Surgical Skills. 1955.
Trowell, H. C.: Diagnosis and Treatment of Diseases in the Tropics. Third edition. 1956.
Wallin, J. E. W.: Education of the Mentally Handicapped Children. 1955.
Walton, J. N.: Subarachnoid Haemorrhage. 1956.
Williamson, P.: Office Procedures. 1955.
Wohl, M. G., and Goodhart, R. S. (Editor): Modern Nutrition in Health and Disease: Dietotherapy. 1955.
Wood, P.: Diseases of the Heart and Circulation. Second edition. 1956.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Captain D. H. Kernohan has retired.

Surgeon Commanders H. M. Darlow and A. L. Moorby have retired.

Surgeon Lieutenants J. G. H. Sheppard, G.M., C. O. I. Hughes, and W. A. N. Mackie, D.S.C., to be Surgeon Lieutenant-Commanders.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenant-Commander (Retired) H. G. Rees, O.B.E., has been removed from the Retired List on transfer to the S.A.N. (War Reserve).

Surgeon Lieutenant W. I. H. Bourne to be Surgeon Lieutenant-Commander.

HER MAJESTY'S OVERSEA CIVIL SERVICE

The following appointments have been announced: G. Buchanan, F.R.C.S., Surgeon Specialist, Western Nigeria; A. J. Evans, M.B., B.S., D.A., Senior Specialist, Western Nigeria; J. L. T. Graham, L.R.C.P.&S.I., R. J. Hayhurst, M.B., B.S., and E. J. McArdle, M.B., B.Ch., B.A.O., Medical Officers, Northern Nigeria; A. Hargreaves, M.B., Senior Medical Officer, Kenya; I. K. Hay, M.B., Ch.B., D.P.H., D.T.M.&H., Senior Medical Officer, Sleeping Sickness Service, Northern Nigeria; K. K. Kapadia, M.B., B.S., D.T.M.&H., Medical Officer, Western Nigeria; F. X. Letellier, M.R.C.S., L.R.C.P., D.P.H., Deputy Director of Medical Services, Mauritius; D. A. W. Nugent, M.B., B.S., D.P.H., D.T.M.&H., Specialist Hygienist, Ministry of Health, Gold Coast; C. Nwokolo, M.R.C.P., Specialist (Physician), Eastern Nigeria; R. E. Onwumere, M.R.C.S., L.R.C.P., D.O., Specialist (Ophthalmology), Eastern Nigeria; C. H. Parkin, M.D., C.M., D.P.H., Senior Radiologist, Jamaica; Joan M. Curtis, M.B., B.S., D.Obst.R.C.O.G., Temporary Medical Officer, Falkland Islands; M. W. T. Gedroye, M.B., Ch.B., Medical Officer, Sierra Leone; A. St. F. Henley, M.B., F.R.C.S., Surgeon (Public Hospital), British Guinea; I. A. Key, M.B., B.S., Medical Officer, Tanganyika; F. O. Mueller, M.D., Temporary Medical Officer, Gambia; E. Onori, M.D., Temporary Medical Officer, Gold Coast; P. Paratian, M.B., Ch.B., Medical Officer, Mauritius; C. S. Rajagopal, M.B., B.S., D.C.H., Temporary Medical Officer, Sierra Leone; W. S. Snow, L.R.C.P.&S.I., Medical Officer, Barbados.

Association Notices

Diary of Central Meetings

JANUARY

7	Mon.	S.H.M.O. Group Executive Committee, 2 p.m.
8	Tues.	Organization Committee, 2.15 p.m.
8	Tues.	Training Subcommittee, Occupational Health Committee, 2.30 p.m.
9	Wed.	Remuneration Subcommittee, Occupational Health Committee, 10.30 a.m.
9	Wed.	Financial Advisory Committee, 2 p.m.
9	Wed.	Office Staff Superannuation Fund Committee, following Financial Advisory Committee.
9	Wed.	Private Practice Committee, 2 p.m.
10	Thurs.	Ethical Review Subcommittee, Central Ethical Committee, 10.30 a.m.
10	Thurs.	Joint Formulary Committee, 11 a.m.
10	Thurs.	Central Ethical Committee, 2 p.m.
10	Thurs.	Psychological Medicine Group Committee, 2 p.m.
11	Fri.	Amending Acts Committee, 2 p.m.
16	Wed.	Occupational Health Committee, 10 a.m.
17	Thurs.	G.M.S. Committee, 10.30 a.m.
17	Thurs.	Radiologists Group Committee, 11 a.m.
21	Mon.	Editorial Subcommittee, Joint Formulary Committee, 11 a.m.
22	Tues.	Alternative Edition Subcommittee, Joint Formulary Committee, 11 a.m.
28	Mon.	Staff Side, General Whitley Council (at 14, Russell Square, W.C.), 10.30 a.m.
28	Mon.	Full General Whitley Council (at 14, Russell Square, W.C.), 2 p.m.
29	Tues.	Arrangements Committee (Edinburgh, 1959), 12 noon. (*Change of time.*)
29	Tues.	Subcommittee on Medical Reports, Joint Committee of the B.M.A. and the Magistrates' Association, 2 p.m.

FEBRUARY

12	Tues.	Committee on the Rehabilitation of Disabled Persons, 10.30 a.m.

Branch and Division Meetings to be Held

BARNET DIVISION.—At Old Fold Manor Golf Club, Thursday, January 10, 7 for 7.45 p.m., dinner. Speaker: Mr. C. D. Read. Medical guests are invited.

BELFAST DIVISION.—At Upper Lecture Theatre, Institute of Clinical Science, Grosvenor Road, Belfast, Thursday, January 10, 8.30 p.m., meeting. B.M.A. Lecture by Dr. J. B. Firth: "Forensic Problems of Medical Interest." Members and senior medical students are invited.

BROMLEY DIVISION.—At Queen Mary's Hospital, Sidcup, Wednesday, January 9, 8.15 for 8.30 p.m., meeting. Dr. R. V. Gibson: "Indications for Surgical Treatment in Heart Disease."

CROYDON DIVISION.—At 43, Wellesley Road, Croydon, Tuesday, January 8, 8.30 p.m., general meeting, followed by B.M.A. film: "The Conjoined Twins of Kano."

EAST KENT DIVISION.—At Chez Laurie Restaurant, Thanet Way, Herne Bay, Thursday, January 10, 7.30 p.m., dinner; 8.45 p.m., Dr. D. Curran: "Psychiatric Approach to Crime." Members are invited to bring a Justice of the Peace or an interested member of the legal profession as a guest.

EAST YORKSHIRE BRANCH.—At Quern House, 68, Park Street, Hull, Wednesday, January 9, 8.30 p.m., meeting. Presidential Address: "An Ancient Breed."

HALIFAX AND TODMORDEN DIVISION.—At Board Room, Royal Halifax Infirmary, Tuesday, January 8, 8.30 p.m., meeting. Lecture by Mr. E. Gledhill: "Use and Abuse of Sex Hormones in Gynaecology and General Practice."

HENDON DIVISION.—At Hendon Way Hotel, N.W., Tuesday, January 8, 8.45 p.m., medico-legal evening. Dr. A. K. Mant and Superintendent Hannam: "The Towpath Murder." Members' friends are invited.

LEWISHAM DIVISION.—At St. John's Hospital, Lewisham, S.E., Sunday, January 13, 10.30 a.m., clinical meeting.

LONDONDERRY DIVISION.—At Londonderry City and County Hospital, Friday, January 11, 8.15 p.m., meeting. Films: "Some Aspects of Accessible Cancer." Part I, Skin; Part II, Lip, Tongue, and Mouth.

NORTH BEDFORDSHIRE DIVISION.—At Library, Bedford General Hospital, South Wing, Thursday, January 10, 8.30 p.m., general meeting.

REIGATE DIVISION.—At Redhill County Hospital, Tuesday, January 8, 8.30 p.m., meeting. Address by Mr. L. H. Savin: "The Differential Diagnosis of Headaches."

SCUNTHORPE DIVISION.—At Board Room, Scunthorpe and District War Memorial Hospital, Wednesday, January 9, 8.30 p.m., meeting. Dr. C. D. Cormac: "The School Medical Service."

SOUTH-EAST ESSEX DIVISION.—At Southend General Hospital, Thursday, January 10, 8.30 p.m., meeting. Talk by Dr. E. G. Sita Lumsden: "Bronchial Carcinoma."

STIRLING BRANCH.—At Golden Lion Hotel, Stirling, Sunday, January 6, 3 p.m., general meeting to discuss rejection of remuneration claim. Address by Dr. C. J. Swanson and Dr. E. R. C. Walker. All medical practitioners in the area of the Branch are invited.

STRATFORD DIVISION.—At Board Room, Queen Mary's Hospital, Stratford, E., Tuesday, January 8, 8.45 p.m., general meeting and discussion.

WANDSWORTH DIVISION.—At South London Hospital for Women and Children, Clapham South, S.W., Friday, January 11, 8.30 p.m., meeting. B.M.A. Lecture by Dr. Philip Ellman: "Management of Rheumatic and Allied Diseases in General Practice" (illustrated by slides).

Meetings of Branches and Divisions

CHELSEA AND FULHAM DIVISION

The annual B.M.A. lecture was delivered by Mr. A. M. A. Moore on November 20, 1956. Colonel Harnett was in the chair, and 40 members and guests from neighbouring Divisions were present. The title of Mr. Moore's lecture was "Painful Conditions of the Hand and Foot."

STRATFORD DIVISION

The annual general meeting was held at King George Hospital, Ilford, on October 23. Dr. N. J. Lawler was in the chair and 35 members were present. The following officers were elected:

Chairman.—Dr. R. Peters.
Vice-chairman.—Dr. H. R. England.
Honorary Secretary and Treasurer.—Dr. A. Elliott.
Assistant Honorary Secretary.—Dr. I. M. Segal.

Dr. D. P. Stevenson, Deputy Secretary of the Association, gave an address on "Current Events at Her Quarters," which was followed by a discussion in which Drs. M. Lewis, W. S. Macgowan, I. M. Segal, C. E. Fenton, J. W. Digan, and A. Elliott took part.

WINCHESTER DIVISION

The annual meeting was held at the Royal Hotel on October 27, 1956. Dr. P. A. T. Lowden was in the chair, and 35 members and their guests were present. The following officers were elected:

Chairman.—Dr. J. T. Rowe.
Vice-chairman.—Dr. J. R. Bodington.
Honorary Secretary and Treasurer.—Dr. J. M. Forbes.

After dinner, the President of the Association, Dr. Alexander Hall, addressed the meeting on the subject of the B.M.A.

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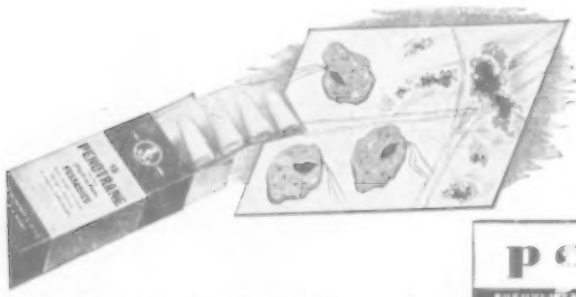

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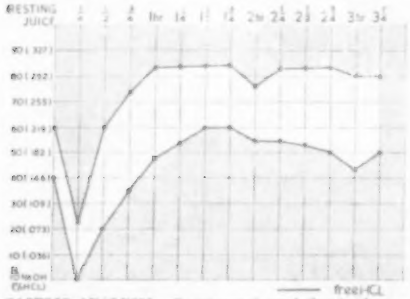
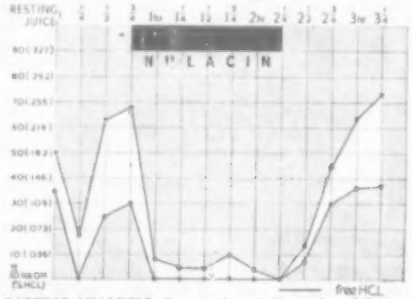


GASTRIC ANALYSIS. *Superimposed gruel fractional test-meal curves of five cases of duodenal ulcer.*



GASTRIC ANALYSIS. *Same patients as in graph on left, two days later, showing the striking neutralizing effect of sucking Nulacin tablets (3 an hour). Note the return of acidity when Nulacin is discontinued.*

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The Control of Gastric Acidity. *Brit. Med. J.* 26th July, 1952. **2**: 180-182. Medical Treatment of Peptic Ulcer. *Med Press* 27th February, 1952. **227**: 195-199. Notes on Remedial Agents. *Med. Rev.* September, 1952. **46**: 162. Discussion on Peptic Ulceration. *Proc. Roy. Soc. Med.* May 1953, **46**: 354. The Effect on Gastric Acidity of "Nulacin" tablets. *Med. J. Aust.* 28th November, 1953, **2**: 823-824. Control of Gastric Acidity by a New Way of Antacid Administration. *J. Lab. Clin. Med.* 1953. **42**: 955. Further Studies on the Reduction of Gastric Acidity. *Brit. Med. J.* 23rd January, 1954, **1**: 183-184. Clinical Investigation into the Action of Antacids. *The Practitioner* July, 1954, **173**: 46. Management of Peptic Ulceration in General Practice. *Med. World* December, 1954, **81**: 591-601. Ambulatory continuous Drip Method in the Treatment of Peptic Ulcer. *Amer. J. Dig. Dis.* March, 1955, **22**: 67-71. Notes on Remedial Agents. *Med. Rev.* October, 1955, **49**: 142. Antacids in Peptic Ulcer. *The Practitioner*, January, 1956, **176**: 103.

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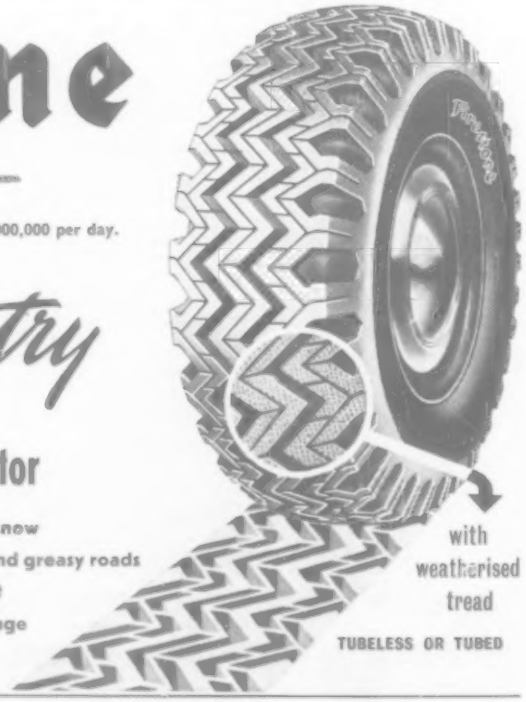

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(*a*) *REGISTRAR*: Posts obtained normally not less than two years after registration as a medical practitioner and held normally for two years: £850 per annum in the first year; £965 per annum in the second and any subsequent years. If the post is resident a deduction of £170 per annum is made.

(*b*) *SENIOR REGISTRAR*: Posts obtained normally not less than four years after registration as a medical practitioner and held normally for four years; £1,100 per annum in the first year; £1,200 per annum in the second year; £1,300 per annum in the third year; £1,400 per annum in any subsequent years. If the post is resident a deduction of £200 per annum is made.

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(i) *Provisionally registered medical practitioners*: £425 per annum for the first post held; £475 per annum for the second and all subsequent posts held;

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(ii) *Fully registered medical practitioners*: £525 per annum for any post held;

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Paediatrics
Pathology
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Psychiatry
Radiology
Radiotherapy
Surgery
Thoracic Surgery
Urology

in the following order:
Consultants, S.H.M.O.s, Registrars, Clinical Assistants, J.H.M.O.s, Senior House Officers, House Officers, Pre-registrations.

Public Health
Administrative Services
Industrial
Republic of Ireland
Oversea
University and Research
Scholarships
Personal
Notices
Educational and Lectures
Situations (Non-med.)
Pharmacists, etc.
Receptionists, etc.
Consulting Rooms, etc.
Houses and Property
Accommodation, etc.
Hotels
Miscellaneous
Agents
Homes

Rates are shown on the Inside Back Cover

MEMBERS ABROAD. Copies of vacancies advertised in the *Journal* can be sent by AIR MAIL. The minimum cost is 3s. per week, which covers up to three separate headings: additional headings 1s. each.

Please state type of vacancy and remit to the Advertisement Director, B.M.J.

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

BURGH-LE-MARSH, Lincolnshire

Applications invited for vacancy, rural. List at present approximately 1,946. Residence and separate surgery premises may be available. Apply on Form E.C.16A before January 16, 1957, to Lincolnshire (Lindsey) Executive Council, 17, Tentercroft Street, Lincoln. (7560)

KENNINGHALL, Norfolk

Applications are invited for rural vacancy 20 miles South-West of Norwich. List approximately 1,750 (all dispensing). Residence and surgery available by purchase. "Intermediate" area. Apply on Form E.C.16A not later than first post January 14, 1957, to R. J. Cobb, Clerk of the Norfolk Executive Council, 54, Prince of Wales Road, Norwich. (7510)

YORKSHIRE WEST RIDING EXECUTIVE COUNCIL: GOOLE

Applications are invited for a vacancy at Goole (Urban). List at present 3,043. Residence and Surgery for sale. Apply on Form E.C.16A to the undersigned not later than January 19, 1957. Further particulars available to applicants on request.—C. H. Stabler, Clerk of the West Riding Executive Council, 5, St. John's North, Wakefield. (7509)

KINGSTON-UPON-HULL, Yorkshire

Applications invited for vacancy on housing estate. There is no list, but successful applicant will be granted the initial practice allowance provided the conditions of payment are satisfied. The Housing Authority has so far erected 339 dwellings on the estate. The number of dwellings to be completed by June 30, 1958, will be 1,359. Until the proposed Health Centre is available the successful applicant will be granted temporary tenancy of a parlour type house. In the event of the proposed Health Centre not being proceeded with, the successful applicant will be required, at his own expense, to build surgery accommodation on the estate on land to be leased by the Housing Authority. Apply on Form E.C.16A, to the undersigned not later than January 21, 1957. Further details may be obtained on request.—J. W. Milton, Clerk of the Kingston-upon-Hull Executive Council, 52, Ferensway, Kingston-upon-Hull. (7440)

PRACTICES (Offered)

IRELAND. DUBLIN CITY SOUTH. ESTABLISHED practice. Corner house. Good residential area.—Box PR.3262, B.M.J.

PRACTICES (Exchange)

BIRMINGHAM, N.H. LIST 5,500. WISHES exchange similar, Manchester or London.—Box PR.3362, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, single Jewish Assistant, view to partnership. Yorkshire university town. Fullest particulars.—Box A.3352, B.M.J.

Assistant, male. Seaport near Cardiff. Live out. Car owner. Good free time.—Box A.3265, B.M.J.

Assistant required Lancashire industrial practice. Live out. Car essential. To commence as soon as possible. Salary by arrangement.—Write Box A.3370, B.M.J.

Assistant wanted immediately, S.E. Essex. Some obstetrics. Car essential. Flat available.—Box A.3359, B.M.J.

Australia (Brisbane). Opening available with Pathology/Transfusion practice. Experience not essential. £1,500/£2,000, plus private fees.—Box A.3252, B.M.J.

Near Sheffield, preferably single, car owner, obstetric experience.—Box A.3357, B.M.J.

ASSISTANTS AVAILABLE

Assistant requires Semi-rural Practice West Cumberland. Own car. Accommodation. Start immediately if possible. For seven months, possibly longer.—Box A.3356, B.M.J.

Assistantship with view, M.B., Trinity (Dublin), age 33, married, three years' varied hospital and two assistantships—ten months, twelve months. Obstetrics list. Full references. Free mid-January.—Box A.3363, B.M.J.

L.R.C.P.&S.I., '49, D.C.H., I.M., Irish, married, no children. Car. Four years hospitals, three years G.P. Free January.—Box A.3360, B.M.J.

Part-time Assistantship or full-time Locumship, live in, near London, postgraduate.—Box A.3351, B.M.J.

TRAINEE GENERAL PRACTITIONERS (Vacant)

Wanted, Trainee, Marylebone. Male or female. —Box T.3268, B.M.J.

Trainee General Practitioners—contd.

Wanted, March, Trainee, male, married, for practice three partners. Mains appointments. Cottage hospital. Midwifery. Four-roomed unfurnished flat, garage. Car essential. Salary and allowances as provided by the N.H.S.—Dr. Davison, Claremont, Dorking 2422.

Trainee, West Midlands, married, car owner. Furnished modern house rent free.—Box T.3258, B.M.J.

Vacancy for Trainee, male or female, March 1, Good hospital experience desirable. Furnished flat available by arrangement.—Write Dr. Milne, 102, Ditton Road, Surbiton.

LOCUMS (Vacant)

Assistant wanted, British, male, with car, three months January to March. Rural practice. Herefordshire.—Box L.3358, B.M.J.

St. Alfege's Hospital, Greenwich

Resident Locum Registrar (Anaesthetics)

required from approximately February 1, 1957. Salary £17 10s. weekly. Tel. GRE 2655. (7361)

St. Alfege's Hospital, Greenwich (363 beds) Recognized for M.R.C.O.G. examination

Locum Resident Registrar (Obstetrics and Gynaecology)

preferably with M.R.C.O.G., required late January, 1957. Holder eligible for permanent appointment. Salary £17 10s. weekly, less £170 per annum for residence. Apply Secretary, G. and D. H.M.C. at above hospital, or telephone GRE 2655, Ext. 117. (7362)

Birmingham Group 9 Hospital Management Committee (Mental Deficiency)

Locum J.H.M.O.

required in January and March, 1957. Apply to Secretary, Coleshill Hall Hospital, Coleshill, near Birmingham. (7293)

Coldharbour (M.D.) Hospital, Sherborne, Dorset (in the Coldeast and Tatchbury Mount Hospital Group)

Whole-time Locum Tenens Assistant Psychiatrist (S.H.M.O. Grade)

required for a period of approximately three months to commence mid-January. Accommodation is available, or successful candidate may reside near hospital. Applications to Physician Superintendent, Tatchbury Mount Hospital, Totton, near Southampton. (7445)

Eastbourne Hospital Management Committee

Locum Anaesthetist (Consultant or S.H.M.O.)

maximum part-time. Required immediately for indefinite period, minimum three months. Required to reside in Eastbourne. Apply Group Secretary, 29, Bedfordwell Road, Eastbourne. (7292)

Glantawe Hospital Management Committee

Swansea Hospital (403 beds), Swansea

Registered medical practitioners are invited to apply for the locum appointment of

Resident Anaesthetist, Senior House Officer grade

at the above Hospital. The hospital is recognized under the D.A. and F.F.A.R.C.S. regulations. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Hospital Secretary.—T. E. Jones, Group Secretary. (7105)

Hindemere and District Hospital, Hindemere, Surrey

Locum Tenens Surgical Registrar (General)

required January 14 to 20, 1957, inclusive. Applications to Hospital Secretary. (7241)

Leeds Regional Hospital Board

Short-term Locum Tenens

Appointments in the Registrar grade are constantly available at hospitals in the area of the Board, particularly in the specialties of anaesthetics, general medicine, general and orthopaedic surgery and psychiatry. Interested practitioners suitably experienced should communicate with the Secretary, Joint Registrars Committee, Park Parade, Harrogate. (5281)

Manchester Regional Hospital Board

Locum Consultant Obstetrician (G)naecologist

West Manchester Hospitals, mainly Park Hospital, Davyhulme. Eight half-days weekly at 3½ gns. or 5 gns. per half-day, according to status, required forthwith for indefinite period. Applications, with curriculum vitae and names of two referees, to Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, as soon as possible. (7544)

Newcastle Regional Hospital Board

Locum Consultant Chest Physician

whole-time, for Hollywood Hall Sanatorium, South-West Durham Group of Hospitals. Applications, with names and addresses of three referees, to S.A.M.O., Regional Hospital Board, Benfield Road, Newcastle-upon-Tyne, 6, immediately. (7261)

Newcastle Regional Hospital Board

Locum S.H.M.O. Anaesthetist

required for Northallerton group of hospitals for period three months commencing February 11, 1957. Applications, with names and addresses of three referees, to S.A.M.O., Newcastle Regional Hospital Board, Benfield Road, Newcastle-upon-Tyne, 6, immediately. (7262)

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The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed :

Box No. .....
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

Salisbury Group Hospital Management Committee

Salisbury General Hospital

Locum Registrar in Medicine

required from January 7 to March 15, 1957. Applications, naming two referees, to Group Secretary, Odstock Hospital, Salisbury. (7278)

South-West Metropolitan Regional Hospital Board

Whole-time Locum Chest Physician (S.H.M.O. grade)

required for the Chest Services in Portsmouth for two months from February 4, 1957. The main duties will be in the Chest Clinic and Mass Radiography Unit. Remuneration will be in accordance with the Terms and Conditions of Service of Hospital Medical and Dental Staff. Applications (three copies), stating age, qualifications and experience, etc., to the Area Secretary, Highcroft, Romsey Road, Winchester, by January 19, 1957. (7260)

Upton Hospital, Slough

Locum Medical Registrar

required January 14 to February 2. Applications, with names of two referees, to Secretary. (7254)

LOCUMS (Available)

Ex-Trainee, D.R.C.O.G., awaiting Assistantship. Own car. Available January.—Box L.3361, B.M.J.

Indian Doctor, Conjoint, car, available for locums anywhere, preferably around Cardiff.—Box L.3364, B.M.J.

APPOINTMENTS

ANAESTHETICS

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

CONSULTANT ANAESTHETIST

eight half-days a week, Barnet Group of Hospitals. Hospitals may be visited by appointment with Group Secretary, 1, Wellhouse Lane, Barnet, Herts. Application forms obtainable from, and returnable to, Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, before February 4, 1957. (7524)

WESTMINSTER HOSPITAL
St. John's Gardens, S.W.1

Applications invited for post of

REGISTRAR

to Anaesthetics Department, for one year in first instance from March 1, 1957. Applications (eight copies), with names of two referees, to House Governor by January 19. (7411)

BOARD OF GOVERNORS OF THE UNITED SHEFFIELD HOSPITALS and SHEFFIELD REGIONAL HOSPITAL BOARD
Reciprocal Training Scheme for Senior Registrars

WHOLE-TIME SENIOR REGISTRAR IN ANAESTHETICS

required. Initial tenure at Nottingham City Hospital (811 beds). Appointment for one year in first instance and renewable thereafter annually. Incumbent will be transferred to the Teaching Hospitals for the second phase of the appointment in accordance with arrangements under the Reciprocal Training Scheme. Renewal of appointment and transfer to the Teaching Hospitals will be subject to satisfactory work and progress. Further details and form of application from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, 10. Forms to be returned by January 21, 1957. (7294)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN ANAESTHETICS

Halifax Group (approximately 290 beds) in the surgical specialties. Resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7296)

LEEDS REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR IN ANAESTHETICS

Bradford (A) and (B) Groups. Preferably resident, if accommodation available at the time of the appointment. Applications, stating age, qualifications, details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by January 18, 1957. (7107)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for two appointments as whole-time

REGISTRARS IN ANAESTHETICS

to fill vacancies in the approved trainee establishment at the following groups of hospitals respectively : (1) Brighton and Lewes ; (2) Greenwich and Deptford. The appointments will be in accordance with the Terms and Conditions of Service of Hospital Medical and Dental Staff (England and Wales), and will be for one year in the first instance. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of two referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than January 19, 1957. (7279)

SOUTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

REGISTRAR

in the Regional Pool of Anaesthetists based on the Royal Infirmary of Edinburgh. The successful candidate will be seconded for periods of duty in peripheral hospitals, details of which may be obtained on application. Apply, stating age, qualifications and previous experience and the names of two referees, to the Secretary, 11, Drumsheugh Gardens, Edinburgh, 3, by January 26, 1957. (7432)

THE UNITED LIVERPOOL HOSPITALS

Applications are invited for a temporary appointment to the post of

ANAESTHETIC REGISTRAR

to take up duty as soon as possible for the period to September 30, 1957. The person appointed will be eligible to apply in the summer of 1957 for a further appointment for the year beginning October 1, 1957. Apply, by January 19, 1957, on form obtainable from the Secretary, 80, Rodney Street, Liverpool, 1. (7437)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10

SENIOR HOUSE OFFICER (Anaesthetics)

whole-time, resident, for six months from March 1, 1957, renewable. Previous experience in anaesthesia essential. Post is recognized for the D.A. and F.F.A. Applications, with copies of two testimonials, or names of two referees, to Medical Director by January 19, 1957. (7472)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS

ANAESTHETIST (Senior House Officer)

Resident post, tenable for six months from April 1, 1957, in the first instance, for duties at both hospitals. Post recognized for the purpose of the F.F.A.R.C.S. Applications to the House Governor by January 18, 1957, on forms obtainable from 339, Goldhawk Road, London, W.6. (7378)

Anaesthetics—contd.

ST. ALFEGE'S HOSPITAL, Greenwich, S.E.10
(363 beds). Recognized for D.A. and F.F.A.R.C.S.

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Vacant early February. Appointment for six months. Salary £745 per annum, less £150 per annum for residence. Applications and testimonials to Secretary, G. and D./H.M.C. at above hospital. (7363)

THE MILLER GENERAL HOSPITAL
Greenwich, S.E.10 (180 beds)
Recognized for D.A. and F.F.A.R.C.S.

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Vacant early February. Appointment for six months. Salary £745 per annum, less £150 per annum for residence. Applications and testimonials to Secretary, G. and D./H.M.C., St. Alfege's Hospital, Greenwich, S.E.10. (7364)

WEST LONDON HOSPITAL
Hammersmith Road, W.6

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

required mid-February. Age, qualifications, experience, copies two recent testimonials, to Secretary by January 13. (7372)

BANGOUR GENERAL HOSPITAL
Broxburn, West Lothian

SENIOR HOUSE OFFICER (Anaesthetics)

Applications are invited for the above post. Post recognized for D.A. and F.F.A.R.C.S. Applications, naming two referees, to the Group Secretary and Treasurer, Board of Management, Bangour Hospital, Broxburn, West Lothian, within 14 days. (7342)

DARLINGTON MEMORIAL HOSPITAL

RESIDENT ANAESTHETIST S.H.O.

Applications are invited from male or female practitioners for the above appointment now vacant. The hospital is recognized for the study for the D.A. and F.F.A.R.C.S. Salary £745 per annum. Apply, with references and full details, to the undersigned forthwith.—G. W. Beckwith, Group Secretary. (7548)

HASTINGS GROUP HOSPITAL MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER (Anaesthetics)

for duties within the Group. Resident post, vacant late January, is recognized for F.F.A.R.C.S. and D.A. Salary £745 per annum. Apply to Group Secretary, 11, Holmesdale Gardens, Hastings. (7297)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)

vacant mid-February. The appointment includes duties at both the Leicester Royal Infirmary and the Leicester General Hospital. Recognized for D.A., F.F.A. Applications, stating age, qualifications and experience, with copies of recent testimonials, to Group Secretary, No. 1 Hospital Management Committee, the Leicester Royal Infirmary, by January 16, 1957. (7337)

PRESTON AND CHORLEY HOSPITAL MANAGEMENT COMMITTEE

Preston Royal Infirmary

Applications are invited for the post of
SENIOR HOUSE OFFICER IN ANAESTHETICS
Recognized for F.F.A.R.C.S. Applications, with names of two referees, to the Group Secretary, Royal Infirmary, Preston. (7298)

QUEEN MARY'S HOSPITAL, Sidcup, Kent

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

required to commence duty early February, 1957. Salary £745, less £150 per annum for residential emoluments. The post is recognized for the D.A. Applications, stating nationality, age, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary. (7489)

THE ROYAL HOSPITAL, Wolverhampton
(An Associated Hospital of the Birmingham University Medical School)

SENIOR HOUSE OFFICER (Anaesthetics)

Post vacant shortly. Recognized for D.A. and F.F.A.R.C.S. Apply Secretary, with copies of testimonials. (7412)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment specified in this notice or for any appointment under an authority referred to in this notice without first communicating with the Secretary of the British Medical Association, B.M.A House, Tavistock Square, London, W.C.1, or with the Medical Secretary of the Irish Medical Association, 10, Fitzwilliam Place, Dublin, to learn the views of the Association regarding the terms and conditions of service pertaining to the appointment:

REPUBLIC OF IRELAND,
PORTIUNCULA HOSPITAL,
BALLINASLOE, CO. GALWAY.

Resident and Medical Visiting Staff.

By Order of the Council,
A. MACRAE,
Secretary.

January 1, 1957.

SUNDERLAND AREA HOSPITAL MANAGEMENT COMMITTEE

RESIDENT ANAESTHETIST

is required for duties at hospitals in the above Group. Senior House Officer grade. Post vacant December. The post offers good practical experience under the supervision of the visiting anaesthetists. The hospitals are recognized for the F.F.A.R.C.S. and the D.A. In addition, every opportunity is given to attend lectures at the neighbouring university 12 miles away. Apply to the Group Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland, naming two referees. (7381)

BACTERIOLOGY

CITY HOSPITAL, Greenbank Drive, Edinburgh

JUNIOR HOSPITAL MEDICAL OFFICER
(Bacteriology)

required as assistant to Bacteriologist at City Hospital Laboratory. Whitley Council salary and conditions of service. Applications, at an early date, with names of two referees, to Secretary, Board's Office. (7410)

CARDIOLOGY

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment:

WHOLE-TIME ASSISTANT CARDIOLOGIST

based at the Royal Infirmary, Glasgow. Salary (at age 32 and over) on the scale £1,575 by £50 to £2,025. Applications (16 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, not later than 30 days after the publication of this advertisement. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7343)

CASUALTY

SHEFFIELD REGIONAL HOSPITAL BOARD

City General Hospital, Sheffield (652 beds)
Recognized for the F.R.C.S. examination

WHOLE-TIME RESIDENT OR NON-RESIDENT CASUALTY REGISTRAR

required. The successful candidate to reside at the hospital when on duty (including "on call" duty). Appointment for one year in first instance. Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, by January 14, 1957, giving age, nationality, qualifications, present and previous appointments (with dates), naming three referees. (7299)

UNITED MANCHESTER HOSPITALS

Manchester Royal Infirmary, Manchester, 13

RESIDENT CASUALTY OFFICER
(Registrar or S.H.O. Grade)

to commence as soon as possible. Whole-time post for twelve months. Surgical experience essential. Residence £170 or £150 per annum. Application form obtainable from the undersigned, to be returned not later than January 19, 1957.—G. H. Taylor, Secretary. (7446)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields

RESIDENT JUNIOR CASUALTY OFFICER

for whole-time duty in Casualty Department, which is under the direction of a Senior Casualty Officer. J.H.M.O. or S.H.O. grade, according to experience. Applications, with names of two referees, to Group Secretary, Preston Hospital, North Shields. (7243)

HAMMERSMITH HOSPITAL AND POSTGRADUATE MEDICAL SCHOOL
Du Cane Road, London, W.12

WHOLE-TIME NON-RESIDENT CASUALTY OFFICER (S.H.O. grading)

required March 1. Age, qualifications, experience, copies of two recent testimonials, to Secretary, Board of Governors, by January 14. (7373)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18

SENIOR HOUSE OFFICER (Casualty Dept.)

Vacant February 8. Recognized for F.R.C.S. Six months' resident appointment and may then be renewed. Salary £745 per annum, less £150 per annum for residence. Apply to Secretary. (7550)

ST. MARY'S HOSPITAL, W.2

Applications are invited from suitably qualified practitioners for the post of
CASUALTY SURGEON

Candidates must have held an appointment as House Surgeon at this hospital or at another hospital approved by the Board of Governors. The appointment is for a first period of six months, with effect from March 1, 1957. Remuneration at Senior House Officer rates. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), details, and National Health Service gradings of previous and present appointments, together with the names and addresses of three referees, should reach Alan Powditch, House Governor, not later than January 22, 1957. (7507)

THE MILLER GENERAL HOSPITAL (180 beds)
Recognized for the F.R.C.S. Examination

SENIOR HOUSE OFFICER

Casualty Dept. Vacant early February, 1957, six months' appointment (renewable). Previous House Officer experience essential. Salary £745 per annum, less deduction of £52 per annum for meals. Applications to Secretary, G. and D./H.M.C., St. Alfege's Hospital, Greenwich, S.E.10. (7365)

WEST LONDON HOSPITAL
Hammersmith Road, W.6

RESIDENT CASUALTY OFFICER
(S.H.O. grading)

required immediately. Age, qualifications, experience, copies two recent testimonials, to Secretary by January 12, 1957. (7525)

CROYDON GENERAL HOSPITAL

CASUALTY OFFICER (S.H.O., Resident)

Post vacant January 22, 1957, and is recognized for Final F.R.C.S. Examination. There is a Registrar in charge of Department. Application forms obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon. (7096)

CROYDON GROUP HOSPITAL MANAGEMENT COMMITTEE

Mayday Hospital (611 beds)

JUNIOR CASUALTY OFFICER
(Senior House Officer Grade)

Applications are invited for post, which is vacant on January 22. Recognized for Final F.R.C.S. Examination. Particularly good for gaining experience in Orthopaedics and Fracture work. Application forms obtainable from George A. Paines, Group Secretary, Hospital Management Committee, General Hospital, Croydon. (7264)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

Casualty—contd.

EDGWARE GENERAL HOSPITAL (715 beds) Edgware, Middlesex

RESIDENT SENIOR CASUALTY HOUSE OFFICER

required. Post recognized for F.R.C.S. purposes. Apply immediately, stating age, nationality, qualifications and experience, together with the names and addresses of two referees, to Group Secretary, Edgware General Hospital. (7447)

HERTFORD COUNTY HOSPITAL (Hospital situated 21 miles from London)

RESIDENT CASUALTY OFFICER (Senior House Officer grade)

with attachment to Paediatrician and Ophthalmic Consultant. Salary £745 per annum, less £150 per annum residential emoluments. Recognized under F.R.C.S. regulations. Appointment to commence immediately. Apply, with full details and references, to Group Secretary, Hertford H.M.C., County Hospital, Hertford, Herts. (7468)

KENT AND SUSSEX HOSPITAL Tunbridge Wells (303 beds)

Applications invited for post of

SENIOR HOUSE OFFICER (Casualty)

(male or female). Recognized F.R.C.S. Vacant February 28, 1957. Apply, giving age, qualifications, experience, with names of two referees, to Group Secretary, Sherwood Park, Pembury Road, Tunbridge Wells. (7541)

LUTON AND DUNSTABLE HOSPITAL Luton, Beds

SENIOR HOUSE OFFICER

for Accident Service, including duties in the Hand Infection Unit, required February 1, 1957. Post recognized for F.R.C.S. Applications to be sent to the Secretary by January 23, 1957. (7280)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (141 beds)

Mid-Kent Hospital Management Committee

CASUALTY OFFICER (Senior House Officer) Recognized for F.R.C.S.

Salary £745 a year, less £150 a year for board and lodging. Post vacant February, 1957. Applications to the Administrative Officer at the hospital. (7491)

NOTTINGHAM GENERAL HOSPITAL

Applications are invited for the post of

SENIOR HOUSE OFFICER (Casualty)

duties to commence January 31, 1957. Establishment three. Recognized for F.R.C.S. Post offers wide experience of casualty work. Applications, stating age, nationality, qualifications and experience, together with copies of testimonials, to be sent to Secretary, General Hospital, Nottingham. (7510)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

RESIDENT SENIOR HOUSE OFFICER (Area Accident and Orthopaedic Department)

vacant mid-December, recognized for F.R.C.S. Duties including work in area casualty department at Battle Hospital, Reading (300 beds). Person appointed will work with Registrar and House Officers. Apply, stating nationality, present post and qualifications, with dates, together with names of two referees, to Group Secretary, 3, Craven Road, Reading. (9649)

ROYAL GWENT HOSPITAL, Newport, Mon. (260 beds—10 residents) (Recognized F.R.C.S.)

SENIOR HOUSE OFFICER

required for Casualty Department early January, resident or non-resident. S.H.M.O. in full-time charge and there are also two Senior House Officers. Salary £745, less £150 board residence, if resident. Good experience. Write, quoting two referees, to T. A. Jones, Group Secretary, 64, Cardiff Road, Newport, Mon. (6801)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

General Hospital (309 beds), Middlesbrough

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Casualty)

at the above Hospital. The appointment offers excellent experience in a very busy Department, for which there is a whole-time Senior Casualty Officer and two whole-time Senior House Officers. Applications, stating full details and giving names for reference, should be addressed to the Secretary, General Hospital, Ayresome Green Lane, Middlesbrough. (6646)

TORBAY HOSPITAL, Torquay

RESIDENT CASUALTY OFFICER (Senior House Officer status)

required. There is a complement of six Resident House Officers. Applications, as soon as possible quoting Ref. F/955/[illegible], stating qualifications, nationality, age, with copy testimonials, to the Group Secretary, Torquay District Hospital Management Committee, Torbay Hospital, Torquay, S. Devon. (6913)

WESTON-SUPER-MARE GENERAL HOSPITAL

CASUALTY OFFICER (Senior House Officer Grade)

required February 1, 1957, for the above hospital. The appointment is recognized for F.R.C.S. examinations. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be addressed to the Group Secretary, Weston-super-Mare Hospital Management Committee. (7448)

LISTER HOSPITAL, Hitchin, Herts

Applications are invited for

CASUALTY OFFICER (Resident)

for duty with Accident Service and as Orthopaedic House Surgeon. Recognized as pre-registration post and for F.R.C.S., and becomes vacant on January 17, 1957. Applications to be sent to the Medical Administrator, Lister Hospital, as soon as possible. (Pr.7265)

ROYAL SUSSEX COUNTY HOSPITAL (312 beds)

TWO CASUALTY HOUSE SURGEONS

Duties include work in Orthopaedic and Traumatic Unit. Vacant mid-January and February. Recognized for pre-registration and F.R.C.S. Applications, stating usual particulars, and naming two referees, to the Administrative Officer, Royal Sussex County Hospital, Brighton. (Pr.6408)

SALFORD ROYAL HOSPITAL (Salford Hospital Management Committee) 257 beds acute general

Applications are invited for the pre-registration post of

HOUSE OFFICER

in the Casualty Department at the above hospital. Vacant January, 1957. Applications, with copies of two recent testimonials, should be addressed to the Secretary, Salford Royal Hospital, Chapel Street, Salford, 3. (Pr.7344)

CHEST AND TUBERCULOSIS

(see also THORACIC SURGERY)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN CHEST DISEASES

Castle Hill Sanatorium, Cottingham, E. Yorks (220 beds). Resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7302)

MILFORD CHEST HOSPITAL, Godalming, Surrey

THORACIC MEDICAL REGISTRAR

required. All modern forms of treatment are carried out at the hospital, including major Thoracic Surgery, a proportion of the beds being set aside for non-tuberculous Thoracic Surgery. Application forms from the Group Secretary, Group Office, King George V Hospital for Diseases of the Chest, Godalming, Surrey, to whom they should be returned not later than January 19, 1957. (7266)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Clare Hall Hospital, South Mimms, near Barnet, Herts (405 beds for tuberculosis and diseases of the chest, including 80 for thoracic surgery)

MEDICAL REGISTRAR

Duties mainly medical, but some allocation to duty in surgical wards. Good training in general medicine essential, and experience in diseases of the chest desirable. Application forms obtainable from, and returnable to, Group Secretary, Barnet Group H.M.C., 1, Wellhouse Lane, Barnet, Herts, by January 16, 1957. (7143)

WORTHING GROUP HOSPITAL MANAGEMENT COMMITTEE

REGISTRAR IN THORACIC MEDICINE

(non-resident) to the Chest Department, Worthing General Hospital, Southlands General Hospital, Shoreham (out-patient and in-patient duties for general chest work), and Bognor Sanatorium (T.B. in-patient work). Previous experience in general and thoracic medicine required. Car necessary. Applications immediately. Forms from Group Secretary, 129, Brighton Road, Worthing. (7304)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Epsom Group Hospital Management Committee

Applications are invited for whole-time

REGISTRAR IN CHEST MEDICINE

to the Epsom and Dorking Chest Clinics. Immediate vacancy. Duties will include sessions at one or both clinics. Additionally, person appointed will be Registrar at Cheam Sanatorium, where there are 53 beds for the treatment of cases of pulmonary tuberculosis, and will have the day-to-day care of patients under the various Consultants concerned. Successful candidate will be required to live within easy access of Cheam Sanatorium. Applicants may visit Units by arrangement with Consultant Chest Physician. Application forms may be obtained from Group Secretary, Epsom District Hospital, Dorking Road, Epsom (send stamped addressed foolscap envelope), for completion and return within 14 days. (7303)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Portsmouth Group Hospital Management Committee

Applications are invited for the following appointment vacant on March 1, 1957:

REGISTRAR

in the Chest Services of the Group for duties at the Portsmouth Chest Clinic and tuberculosis and non-tuberculosis beds at the Infectious Diseases Hospital and Saint Mary's Hospital, Portsmouth, including experience with a major Thoracic Surgery Unit. Forms of application may be obtained from the Group Secretary, Saint Mary's Hospital, Milton, Portsmouth, which should be returned to him duly completed on or before January 14, 1957. Candidates may visit the above clinic and hospital by arrangement with the Group Secretary. (7301)

STOKE-ON-TRENT GROUP

MEDICAL REGISTRAR (Chest Diseases)

Duties mainly at Cheshire Joint Sanatorium (305 beds) with periods of transfer to Tuberculosis Unit (Pregnancy and Diabetic) at the City General Hospital and Stoke-on-Trent Chest Clinic. The post offers wide experience in the investigation and medical and surgical treatment of tuberculosis and other chest diseases. Possible married accommodation available later. Application forms from H.M.C. Secretary, Princes Road, Stoke-on-Trent, to be returned by January 14, 1957. Candidates may visit hospital. (7300)

CARDIFF HOSPITAL MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER (Medical)

required at Sully Hospital, Sully, Penarth, Glam. (Thoracic Centre—324 beds), commencing January 14, 1957. Experience available in investigation and treatment of all lung and heart diseases in adults and children. Form of application from Group Secretary, 44, Cathedral Road, Cardiff. (7312)

DRIFFIELD, YORKSHIRE, NORTHFIELD SANATORIUM (78 beds)

SENIOR HOUSE PHYSICIAN

Vacant now. Offers experience all branches of Tuberculosis within the Group, including surgery, M.M.R. and clinics. Time for study. Ex-patients welcome. £150 for full residence. Applications to Group Secretary, Westwood Hospital, Beverley, Yorkshire. (7267)

NORTHOWRAM HALL HOSPITAL, Halifax (100 beds)

SENIOR HOUSE OFFICER in Chest Diseases

required. Duties include attendance at busy Chest Clinic at the Royal Halifax Infirmary and non-tuberculous chest ward work. This post offers excellent facilities for the study of chest diseases and experience is available with Bronchoscopies and Bronchograms. Salary £745 per annum with a deduction of £150 per annum for board residence, etc. Applications to be forwarded to the Group Secretary, Royal Halifax Infirmary, Halifax. (7475)

BARNET GENERAL HOSPITAL Wellhouse Lane, Barnet Herts

Applications are invited for the post of

RESIDENT HOUSE PHYSICIAN

The post offers good experience in modern treatment of pulmonary tuberculosis and includes duties in the Barnet Chest Clinic. Applications, stating age, qualifications and experience, together with copies of two testimonials, should be sent to the Hospital Secretary. (7502)

DENTAL

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1

There will be a vacancy on April 8, 1957, for a
RESIDENT SENIOR DENTAL HOUSE SURGEON
The post is recognized for the Fellowship in Dental Surgery, Royal College of Surgeons. Experience is given in both Oral Surgery and Orthodontics. Further particulars and form of application, which must be returned not later than February 4, 1957, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (7461)

SOUTH MANCHESTER H.M.C.
Withington Hospital, Manchester, 20

Applications are invited for the post of resident
SENIOR HOUSE OFFICER
to the Regional Oral Surgery and Maxillo-Facial Unit at the above hospital. The post provides every opportunity to study for F.D.S. and has R.C.S. recognition. Applications with full details, including the names of two referees, should be forwarded to the Group Secretary, Withington Hospital, Manchester, 20. (7473)

DERMATOLOGY

THE SKIN HOSPITAL, In-patients' Department, George Road, Birmingham, 15

SENIOR HOUSE OFFICER
or HOUSE OFFICER
according to experience. Modern well-equipped in-patients' department, providing facilities for study of skin diseases. Required to assist Consultant at Out-Patient Clinics. Applications, with copies of two recent testimonials, to Group Secretary, Dudley Road Hospital, Birmingham, 18. (7408)

EAR, NOSE, AND THROAT, ETC.

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the non-resident post of
GROUP REGISTRAR IN E.N.T. SURGERY
Recognized for D.L.O. Vacant March 1, 1957. Applications, with two referees, by January 14, 1957, to Group Secretary, Crumpsall Hospital, Manchester. (7306)

STOKE-ON-TRENT GROUP

REGISTRAR, E.N.T. SURGERY
for North Staffordshire Royal Infirmary (455 beds). Experience specialty essential. Resident or non-resident. Application forms from H.M.C. Secretary, Princes Road, Stoke-on-Trent, to be returned by January 14, 1957. Candidates may visit hospital. (7307)

THE BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited by the above Boards for the joint appointment of
REGISTRAR IN EAR, NOSE AND THROAT SURGERY
The appointment will be held for one year in the first instance and be renewable for a further year. The successful candidate will be required to work for the first year at the South Devon and East Cornwall Hospital, Plymouth. The post is recognized for the F.R.C.S. and D.L.O. examinations. Applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park Road, Bristol, 8, not later than January 23, 1957. (7414)

WELSH REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR, E.N.T. Surgery
based Royal Gwent Hospital, Newport, Mon, with visits to other hospitals in area. Recognized F.R.C.S. Non-resident. Subject to review end of first year. Application forms from S.A.M.O., Temple of Peace, Cathays Park, Cardiff, within 14 days. (7467)

ROYAL GWENT HOSPITAL, Newport, Mon
(260 beds—10 residents)

JUNIOR HOSPITAL MEDICAL OFFICER
or SENIOR HOUSE OFFICER
required about January 23. Post covers 23 E.N.T. and 8 Eye beds. Recognized D.L.O. Good experience. Write, quoting two referees, to T. A. Jones, Group Secretary, 64, Cardiff Road, Newport, Mon. (6583)

DONCASTER HOSPITAL MANAGEMENT COMMITTEE

Doncaster Royal Infirmary
(Recognized under the regulations for the Fellowship and D.L.O.)

Applications are invited for the post of
S.H.O. in the Ear, Nose and Throat Department
Post vacant now. Applications to the Group Secretary at Doncaster Royal Infirmary. (7308)

NORTH STAFFORDSHIRE ROYAL INFIRMARY

SENIOR HOUSE OFFICER (E.N.T.)
required. Vacant very shortly. Recognized for F.R.C.S. and D.L.O. Detailed application, with copy testimonials, to Group Secretary, H.M.C., Princes Road, Stoke-on-Trent. (6802)

ROYAL SOUTH HANTS HOSPITAL
Southampton (274 beds) and
SOUTHAMPTON GENERAL HOSPITAL
(472 beds)

SENIOR HOUSE OFFICER (E.N.T.)
required. This post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations and provides experience in all branches of E.N.T. work. The Group includes a diagnostic and distributing Hearing Aid Centre. Applications, with copies of recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7512)

THE UNITED LIVERPOOL HOSPITALS

Applications are invited for a temporary appointment to the post of
SENIOR HOUSE OFFICER
in Otorhinolaryngology (Resident)
to take up duty as soon as possible, for the period to September 30, 1957. Apply by January 19, 1957, on form obtainable from the Secretary, 80, Rodney Street, Liverpool, 1. (7438)

WESTERN INFIRMARY OF GLASGOW

SENIOR HOUSE OFFICER
in Ear, Nose and Throat Surgery (Resident) required. The appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. Applications, stating age, qualifications, and present appointment, and giving the names of three referees, should be submitted to the Secretary and Treasurer, Board of Management for Glasgow Western Hospitals, 10, Park Circus, Glasgow, C.3. (7499)

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

Royal Northern Infirmary (222 beds)

HOUSE OFFICER
(Ear, Nose, and Throat and Ophthalmology)
required from February 1, 1957. Pre-registration or registered practitioner post. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness, by January 10, 1957. (7227)

GLASGOW EAR, NOSE AND THROAT HOSPITAL

RESIDENT HOUSE OFFICERS (Two)
required, to commence January 24 and February 14, 1957. Appointments are for six months and qualify for pre-registration period in surgery. Salary scale £425 to £525 per annum. Applications to Medical Superintendent, Ear, Nose, and Throat Hospital, 306, St. Vincent Street, Glasgow, C.2. (7500)

TINDAL GENERAL HOSPITAL
Aylesbury, Bucks (260 beds)

HOUSE SURGEON (E.N.T.)
Post vacant January 14, 1957. Department has a high turnover with four Out-patient Clinics weekly. Recognized for D.L.O. and F.R.C.S. No casualty department. Pre-registration post, but registered practitioners invited to apply. Apply, with copies of two testimonials, to the Administrative Officer. (5718)

GERIATRICS

ST. GEORGE'S HOSPITAL, Hornchurch

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident)
required from January 1, 1957, at this hospital, which accommodates 404 chronic sick patients. The post offers excellent Geriatric experience. Applications should be forwarded to the Secretary, Romford Group H.M.C., Oldchurch Hospital, Romford, as soon as possible. (6629)

ST. MATTHEW'S HOSPITAL (320 Geriatric beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER (Geriatrics) (Resident)
Applications, and copies of two testimonials, to the Hospital Secretary, St. Matthew's Hospital, Shepherdess Walk, London, N.1, by January 19, 1957. (7234)

BOARD OF MANAGEMENT FOR THE ABERDEEN GENERAL HOSPITALS

Applications are invited for the post of
SENIOR HOUSE OFFICER IN GERIATRICS
at Glenburn Wing, Woodend General Hospital, Aberdeen. The post is non-resident. Applications, giving details of qualifications and experience, with the names of two referees, should be lodged with the Secretary, Aberdeen General Hospitals, P.O. Box 92, 62, Queen's Road, Aberdeen, within 14 days of the appearance of this advertisement. (7449)

ST. DAVID'S HOSPITAL, Cardiff

SENIOR HOUSE OFFICER (Resident)
required in Geriatric Unit (200 beds) at above hospital. Form of application from Group Secretary, Cardiff H.M.C., 44, Cathedral Road, Cardiff. (7268)

LEYTONSTONE (NO. 10) HOSPITAL GROUP

Applications are invited for the post of
HOUSE OFFICER
in the Group Geriatric Unit, Langthorne Hospital. The post offers excellent scope for persons interested in this specialty as the most modern methods of Geriatric Treatment are employed, supervised by a Consultant Geriatrician, with full consultant services in other branches. Application forms from the Senior Medical Officer, Langthorne Hospital, London, E.11, to be returned by January 14, 1957. (7529)

GENERAL HOSPITAL, Sunderland

HOUSE OFFICER, Geriatric Unit
Post recognized for pre-registration purposes. 560 beds (265 acute). Good clinical experience in all branches of medicine including out-patient clinics. Successful candidate will work under direction of Consultant Physician. The Unit has a Research Department and facilities for all modern methods of investigation and treatment. Vacant mid-January. Apply, naming two referees, to the Hospital Secretary, The General Hospital, Sunderland. (Pr.7425)

INFECTIOUS DISEASES

WESTERN HOSPITAL
Seagrave Road, Fulham, S.W.6

Applications are invited for appointment as
REGISTRAR (Infectious Diseases)
Post vacant April 1, 1957. The hospital is the Regional Centre for the treatment of respiratory complications of poliomyelitis, and has facilities for research. Candidates may visit the hospital by arrangement with the Physician Superintendent. Applications (five copies) to be submitted by January 18, 1957, on forms obtainable from, and returnable to, Group Secretary, 5, Collingham Gardens, London, S.W.5. (7490)

CHERRY TREE HOSPITAL (Isolation—96 beds)
Stockport

Applications are invited for the post of
SENIOR HOUSE OFFICER
Applications, stating age, experience and qualifications, together with copies of two testimonials, to be addressed to the Group Secretary, Stockport and Buxton H.M.C., 59B, Shaw Heath, Stockport. (7450)

MEDICINE

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Willesden Chest Clinic, Pound Lane, N.W.10

MEDICAL REGISTRAR
required April 1, 1957. Duties include clinic and district work, also personal supervision of 20 beds in Neasden Hospital; and some duties Central Middlesex Hospital. Experience required in general medicine, and some experience in treatment of pulmonary tuberculosis. Preference to candidates with higher qualifications. Further details from Physician to Clinic. Application forms obtainable from, and returnable to, Group Secretary, Central Middlesex Group H.M.C., Acton Lane, N.W.10, by January 23, 1957. (7374)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

Medicine—contd.

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

St. Stephen's Hospital, Chelsea, S.W.3

MEDICAL REGISTRAR

General medical duties (some tuberculosis), non-resident. Application forms from the Acting Group Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3, to be returned not later than 14 days from the date of this advertisement. (Enclose F.S.A.E.) (7559)

UNIVERSITY COLLEGE HOSPITAL
Gower Street, W.C.1

Applications are invited for the post of
MEDICAL REGISTRARS
for one year in the first instance from March 1, 1957. This post will include a period of duty at the Whittington Hospital, London, N.19. Preference will be given to candidates holding higher qualifications. Applications, with the names of two referees, to Administrator and Secretary by January 23, 1957. (7527)

BOARD OF GOVERNORS OF THE UNITED SHEFFIELD HOSPITALS and SHEFFIELD REGIONAL HOSPITAL BOARD
Reciprocal Training Scheme for Senior Registrars

WHOLE-TIME SENIOR REGISTRAR IN GENERAL MEDICINE

required. Initial tenure at Derbyshire Royal Infirmary (416 beds). Appointment for one year in first instance and renewable thereafter annually. Incumbent will be transferred to the Teaching Hospitals for the second phase of the appointment in accordance with arrangements under the Reciprocal Training Scheme. Renewal of appointment and transfer to Teaching Hospitals will be subject to satisfactory work and progress. Further details and form of application from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, 10. Forms to be returned by January 21, 1957. (7309)

BOARD OF GOVERNORS OF THE UNITED SHEFFIELD HOSPITALS and SHEFFIELD REGIONAL HOSPITAL BOARD
Reciprocal Training Scheme for Senior Registrars

WHOLE-TIME SENIOR REGISTRAR IN GENERAL MEDICINE

required. Initial tenure at Leicester Royal Infirmary (492 beds). Appointment for one year in first instance and renewable thereafter annually. Incumbent will be transferred to the Teaching Hospitals for the second phase of the appointment in accordance with arrangements under the Reciprocal Training Scheme. Renewal of appointment and transfer to the Teaching Hospitals will be subject to satisfactory work and progress. Further details and form of application from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, 10. Forms to be returned by January 21, 1957. (7310)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN GENERAL MEDICINE

Pontefract and Castleford Group (65 general medical beds). Married accommodation available. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7311)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

MEDICAL REGISTRAR

required at Harefield Hospital, Harefield, Middlesex. Previous experience in general medicine and in the treatment of tuberculosis essential. The hospital has approximately 450 beds for the treatment of tuberculosis in all its forms, a non-tuberculosis Thoracic Surgical Unit of 90 beds, and 100 General Medical and Surgical beds. Application forms obtainable from, and returnable to, the Group Secretary, Harefield and Northwood Group H.M.C., Mount Vernon Hospital, Northwood, Middlesex, by January 19, 1957. (7451)

THE UNITED SHEFFIELD HOSPITALS
Royal Infirmary Unit

Applications invited for the post of
RESIDENT or NON-RESIDENT REGISTRAR or SENIOR HOUSE OFFICER IN GENERAL MEDICINE
at the above hospital. Grade according to qualifications and experience. Post vacant March 22, 1957. Applications, stating age, qualifications and experience, with the names of three referees, should be sent not later than January 16, 1957, to the Chief Administrative Officer, the United Sheffield Hospitals, West Street, Sheffield, 1. (7441)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment, which will be for one year in the first instance:
SENIOR REGISTRAR IN MEDICINE
based at Stobhill Hospital, Glasgow, for duties at the Western District Hospital. Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, by January 26, 1957. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7532)

HITHER GREEN HOSPITAL, London, S.E.13

Lewisham Group Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER
with duties in Infectious Diseases, General Medicine and E.N.T. Unit. Vacant February 1. The appointment is tenable for one year and may be either fully resident or resident only when on duty. Applications, stating age, qualifications and experience, with copy testimonials or names of referees, to Group Secretary at Lewisham Hospital, S.E.13. (7313)

COUNTY HOSPITAL, Griffithstown, Mon.
(253 beds)

SENIOR HOUSE OFFICER

required. Post includes work with Consultant Physician and Consultant Paediatrician. Resident. Salary £745, less £150 board residence. Write, quoting two referees, to T. A. Jones, Group Secretary, 64, Cardiff Road, Newport, Mon. (7330)

EXETER AND MID-DEVON HOSPITALS MANAGEMENT COMMITTEE

City Hospital, Heavitree Road, Exeter (209 beds)

Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR HOUSE OFFICER IN MEDICINE
to become vacant in February, 1957. The appointed officer will act as House Physician to a Medical Unit of 31 beds, and will also be required to deputize for the Physician Superintendent. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent to the Hospital Secretary within 14 days of this advertisement. (7389)

MID-GLAMORGAN HOSPITAL MANAGEMENT COMMITTEE

Port Talbot General Hospital, Hospital Road, Port Talbot (85 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER
Appointment available February 1, 1957. Applications, naming two referees, to be addressed to the Group Secretary of the Committee, 8, Wind Street, Neath. (7405)

STOKE MANDEVILLE HOSPITAL
Aylesbury, Bucks (619 beds)

SENIOR HOUSE PHYSICIAN
(Senior Resident Medical Officer)

for the Acute General Medicine Unit comprising two registrars and three resident house physicians. Senior House Officer grade. Vacant January 14, 1957. Applications, with copies of three recent testimonials, to the Administrative Officer. (7120A)

WESTWOOD HOSPITAL, Beverley, Yorkshire
(229 beds)

HOUSE PHYSICIAN

House Officer or Senior House Officer grading, according to experience. Pre-registration post, but fully registered practitioners may apply. Apply Group Secretary. (7269)

GERMAN HOSPITAL, Dalston, E.8
(General—157 beds)

Applications are invited for the six months appointment, now vacant, of
HOUSE PHYSICIAN
(Registered Practitioners only)
and should reach the Group Secretary, Hackney Hospital, London, E.9, as soon as possible, quoting GH/HP. (7366)

SOUTH LONDON HOSPITAL FOR WOMEN AND CHILDREN, Clapham Common, S.W.4

Applications are invited from pre-registration and registered women medical practitioners for the post of
HOUSE PHYSICIAN
vacant on March 28, 1957, for a period of six months. Forms of application from the Secretary (7270)

BIDEFORD AND DISTRICT HOSPITAL (51 beds)

Applications invited for post of
HOUSE OFFICER
Now vacant. Flat available for married officer. Applications, stating names of two referees, to Group Secretary, North Devon Hospital Management Committee, 19, Alexandra Road, Barnstaple. (6112)

BLACK NOTLEY HOSPITAL, Braintree, Essex

POSTS OF HOUSE SURGEON AND HOUSE PHYSICIAN

Applications invited for above posts. The successful applicant will serve six months as House Surgeon followed by six months as House Physician. First, second, third or pre-registration posts. Surgical post includes duties in general surgical and gynaecological wards. Recognised for F.R.C.S. Medical post includes duties in medical and paediatric wards. Applications, with copies of three testimonials, to Group Secretary, Colchester H.M.C., 14, Pope's Lane, Colchester, Essex. (7154)

EAST RIDING GENERAL HOSPITAL
Driffield, Yorkshire (247 beds)

HOUSE PHYSICIAN

Vacant early January. Approved pre-registration post. Fully registered practitioners may apply. Duties include acute and chronic medicine. Good general experience for first house appointment. Apply Group Secretary, Westwood Hospital, Beverley, Yorkshire. (7088)

ROYAL HALIFAX INFIRMARY

HOUSE PHYSICIAN

required in General Medicine. Post vacant February 1, 1957. Apply to the Group Secretary, Royal Halifax Infirmary, Halifax. (7476)

VALE OF LEVEN HOSPITAL, Alexandria, Dunbartonshire (155 beds)

The undernoted vacancy for a House Officer exists for the six months' period commencing February 1, 1957:
GENERAL MEDICINE (non-pre-registration)
Applications to be submitted to the Medical Superintendent at the hospital. (7536)

VICTORIA CENTRAL HOSPITAL (135 beds)

Applications are invited for the following resident appointments, which will fall vacant on March 1, 1957, and will be for a period of six months. These posts are approved as pre-registration posts:
TWO HOUSE PHYSICIANS
Salary £425 (£525 per annum according to experience, less £125 per annum for board, lodging, etc. Terms and conditions of service in accordance with the regulations of the Ministry of Health. Applications, giving details of age, nationality, qualifications and experience, together with the names of three persons for reference, to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey, Cheshire. (7237)

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15

HOUSE PHYSICIAN (pre-registration)
required for six months commencing February 13, 1957. Applications, with copies of recent testimonials, to Hospital Secretary by January 12, 1957. (Pr.7167)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Queen's Park Hospital, Blackburn
(640 general beds)

HOUSE PHYSICIAN
required on January 30, 1957. Post recognized for pre-registration purposes. Apply, to Group Secretary, H.M.C. Office, Royal Infirmary, Blackburn. (Pr.7111)

EAST CUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

Cumberland Infirmary, Carlisle (330 beds)

Applications are invited for the post of
HOUSE OFFICER (General Medicine)
for six months' period commencing February 1, 1957. The post is recognized for pre-registration purposes. Applications, stating age and giving details of education, training and experience, together with the names of two referees, should be sent to the Group Secretary, Cumberland Infirmary, Carlisle. (Pr.7314)

IPSWICH AND EAST SUFFOLK HOSPITAL
Heath Road Wing, Ipswich (274 beds)

Applications invited for post of
HOUSE PHYSICIAN (Pre-registration)
vacant February 14, 1957. Applications, with full details, to the Hospital Secretary. (Pr.7315)

Medicine—contd.

HUNTINGDON COUNTY HOSPITAL

Applications are invited for the post of

HOUSE OFFICER (Medical)

Post recognized for pre-registration purposes. The selected candidate will be required to look after medical and paediatric cases and may be called upon to give emergency anaesthetics. Post vacant early February. Apply, with full particulars and names of two referees, to Secretary, County Hospital, Huntingdon. (Pr.7521)

LINCOLN COUNTY HOSPITAL (200 beds)

Applications are invited for the pre-registration post of

HOUSE PHYSICIAN

The post is tenable for a period of six months from February 1, 1957, and can be followed by a pre-registration post of House Surgeon if desired. Applications, giving full particulars, should be addressed to R. W. Howick, Group Secretary. (Pr.6871)

PEACE MEMORIAL HOSPITAL, Watford, Herts (200 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (Pre-registration post)

Salary according to the N.H.S. Scale. Application, with copies of recent testimonials, to the Administrator. (Pr.7198)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE

Royal Portsmouth Hospital (65 medical beds)
HOUSE PHYSICIAN (Pre-registration)
Vacant January 4, 1957.

Saint Mary's Hospital (74 Medical beds)
HOUSE PHYSICIAN (Pre-registration)
Vacant January 30, 1957. Vacant January 31, 1957. Vacant January 31, 1957.

Applications, stating age, experience, and qualifications, together with the names of two referees, should be forwarded as soon as possible to E. H. Hurst, St. Mary's Hospital, Milton Road, Portsmouth. (Pr.6777)

RYHOPE GENERAL HOSPITAL
Near Sunderland

HOUSE PHYSICIAN

required, post vacant February 18, 1957. Post recognized for pre-registration experience. Apply, naming two referees, to the Hospital Secretary, Lechelme Hospital, Easington, Co. Durham. (Pr.7426)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

HOUSE PHYSICIAN

Pre-registration appointments. Preston Hospital, one; Tynemouth Infirmary, one. Applications, with names of two referees, to Group Secretary, Preston Hospital, North Shields. (Pr.7244)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

Hemlington Hospital (274 beds), Middlesbrough

Applications are invited for the post of

HOUSE PHYSICIAN

at the above Hospital. The Medical Unit consists of 60 beds, and the appointment is recognized for pre-registration service under the Medical Act, 1950. The Hospital, which is situated in a rural area within easy reach of Middlesbrough, does not have a Casualty Department. Applications, stating age, qualifications and experience, together with two names for reference, should be addressed to the Hospital Secretary. (Pr.7114)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

North Ormesby Hospital, Middlesbrough

Applications are invited for the appointment of

HOUSE PHYSICIAN

male or female, at the above-named hospital. The appointment is recognized for pre-registration service under the Medical Act, 1950. Applications, stating full details, and giving two names for reference, should be addressed to the Hospital Secretary. (Pr.6584)

UNITED OXFORD HOSPITALS

The Radcliffe Infirmary, Oxford

HOUSE PHYSICIAN

required to the Nuffield Professor of Medicine at the Radcliffe Infirmary, for six months from February 1, 1957. This post is recognized for pre-registration. Applications, with names of two referees, to the Administrator, Radcliffe Infirmary, Oxford, by January 17, 1957. (Pr.7281)

THE GENERAL HOSPITAL, Sunderland

HOUSE PHYSICIAN (Male or female)

required, post recognized for pre-registration experience. Vacant late January. Apply, naming two referees, to the Hospital Secretary, General Hospital, Sunderland. (Pr.7427)

NEUROLOGY

THE NATIONAL HOSPITALS FOR NERVOUS DISEASES

Applications are invited from registered medical practitioners for the appointment of

HOUSE PHYSICIAN

at The National Hospital, Queen Square, W.C.1. This post carries the grade of Registrar. The appointment will be for one year and will be renewed in exceptional circumstances. Applications, with names of three referees, to be sent to the undersigned not later than January 31, 1957.—H. Ewart Mitchell, Secretary to the Board of Governors, The National Hospitals for Nervous Diseases, Queen Square, London, W.C.1. (7436)

THE NATIONAL HOSPITALS FOR NERVOUS DISEASES

Applications are invited from registered medical practitioners for the appointment of

REGISTRAR (Non-resident)

at The National Hospital, Queen Square, W.C.1, for work in the Out-patients' Department. This post carries the grade of Registrar. The appointment will be for one year in the first instance. Applications, with the names of three referees, to be sent to the undersigned not later than January 31, 1957.—H. Ewart Mitchell, Secretary to the Board of Governors, The National Hospitals for Nervous Diseases, Queen Square, London, W.C.1. (7434)

NEUROSURGERY

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

CONSULTANT NEUROSURGEON

for maximum part-time sessions. The main duties will be at the Neuro-Psychiatric Unit at Hurstwood Park, Haywards Heath, Sussex, the balance, not exceeding 3 notional half-days, being at the Neurosurgical/Neurosurgical Centre at the Brook Hospital, Shooters Hill Road, Woolwich, S.E.18. Candidates, with considerable specialized experience, must be Fellows of a Royal College of Surgeons. Applicants may visit the hospitals concerned. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than January 19, 1957. (7282)

OLDCHURCH HOSPITAL, Romford, Essex (722 beds)

SENIOR HOUSE OFFICER, NEUROSURGERY

required from January 18, 1957. Suitable for candidates seeking higher medical or surgical qualifications. Recognized for the F.R.C.S. (Eng.). Apply to Secretary, Romford Group H.M.C., Oldchurch Hospital, Romford, as soon as possible. (5720)

THE MIDLAND CENTRE FOR NEUROSURGERY, Holly Lane, Smethwick, near Birmingham (75 beds)

SENIOR HOUSE OFFICER—Resident

Appointment for one year (renewable), will be available from February 1, 1957, tenable in medical neurology and neurosurgery. Applications, with names of two referees, to the Group Secretary, West Bromwich and District Hospitals Management Committee. (7452)

OBSTETRICS AND GYNAECOLOGY

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for an appointment as

WHOLE-TIME REGISTRAR IN OBSTETRICS AND GYNAECOLOGY

to fill a vacancy in the approved trainee establishment at the Camberwell group of hospitals, available on March 13, 1957. The appointment will be in accordance with the Terms and Conditions of Service of Hospital Medical and Dental Staff (England and Wales) and will be for one year in the first instance. Applications, giving particulars of age, qualifications and experience with relevant dates, together with the names and addresses of two referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than January 19, 1957. (7291)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Lambeth Hospital, Brook Drive, S.E.11

Applications are invited from registered medical practitioners for the post of

OBSTETRIC AND GYNAECOLOGICAL REGISTRAR

which will become vacant in March, 1957. The appointment is normally for two years but subject to annual review. The post is recognized for the M.R.C.O.G., and includes some teaching of medical students from St. Thomas' Hospital. Candidates may visit the hospital. Forms of application, obtainable from the Group Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11, should be returned by January 19, 1957. (7316)

THE BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited by the above Boards for the joint appointment of

REGISTRAR IN OBSTETRICS AND GYNAECOLOGY

The appointment will be held for one year in the first instance and be renewable for a further year. The successful candidate will be appointed to work for the first year mainly at Camborne-Redruth Hospital, Redruth, Cornwall (56 obstetric and 31 gynaecological beds), but may be required to undertake duties in other hospitals in the Group. The post, which is resident, is recognized for the M.R.C.O.G. Applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park Road, Bristol, 8, not later than January 23, 1957. (7415)

THORPE MATERNITY HOSPITAL, Easington, Co. Durham

JUNIOR HOSPITAL MEDICAL OFFICER IN OBSTETRICS (male or female)

required, post vacant January 16, 1957. Previous obstetrical experience desirable. This appointment also affords useful experience in gynaecology. (Out-patient Department and six gynaecological beds in nearby Hospital). Residence provided in Hospital Lodge suitable for married man. Apply, naming two referees, to Hospital Secretary, Lechelme Hospital, Easington, Co. Durham. (7428)

HOSPITAL FOR WOMEN, Soho Square, W.1 (Affiliated to the Middlesex Hospital)

Applications are invited for a full-time post of

RESIDENT SENIOR GYNAECOLOGICAL HOUSE OFFICER

vacant on April 1, 1957. Appointment is for six months, but the holder can apply for an extension of six months. Salary in accordance with the terms laid down for medical and dental staff, less a deduction of £150 per annum for residential emoluments. The appointment is recognized for the M.R.C.O.G. examination. Applications, stating age, nationality, qualifications and experience, supported by the names and addresses of two referees, must reach the undersigned not later than Wednesday, January 16.—D. C. Emery, Secretary. (7554)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS

Queen Charlotte's Maternity Hospital

JUNIOR OBSTETRIC OFFICER (Senior House Officer)

Resident post, tenable for six months from April 1, 1957. Applications to the House Governor by January 18, 1957, on forms obtainable from 339, Goldhawk Road, London, W.6. (7379)

THE MOTHERS' HOSPITAL (Salvation Army), Clapton, E.5 (Maternity, 110 beds)

Applications are invited for the 12 months' resident appointment (vacant February 1) of

SENIOR HOUSE OFFICER (Post recognized for M.R.C.O.G.)

and should reach the Group Secretary, Hackney Hospital, London, E.9, by January 10, quoting MH/SHO. (7168)

CARDIFF HOSPITAL MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER in Obstetrics

required at St. David's Hospital. Appointment recognized for M.R.C.O.G. Further particulars and form of application from Group Secretary, 44, Cathedral Road, Cardiff. (7255)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

Obstetrics and Gynaecology—contd.

DONCASTER HOSPITAL MANAGEMENT COMMITTEE

Western Hospital, Doncaster

Recognized under the Regulations for the D.Obst.R.C.O.G. and M.R.C.O.G. (Obstetrical experience) and approved for pre-registration service under the Medical Act, 1950

Applications are invited for the post of
OBSTETRICAL HOUSE OFFICER
(Senior House Officer or pre-registration post)
Vacant end January. Applications should be forwarded to the Group Secretary at Doncaster Royal Infirmary by January 10. (7098)

ST. PETER'S HOSPITAL (late Botley's Park War Hospital), Chertsey, Surrey (430 beds)

RESIDENT HOUSE SURGEON (S.H.O. or Intern) required for the Gynaecological (30 beds) and E.N.T. (16 beds) Departments. Duties to commence on February 1, 1957. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, to be sent to the Physician Superintendent, St. Peter's Hospital, as soon as possible. (6863)

DUDLEY ROAD HOSPITAL, Birmingham, 18
Department of Obstetrics and Gynaecology

SENIOR HOUSE OFFICER
Vacant March 1, 1957.
HOUSE SURGEON
(recognized for pre-registration)
Vacant February 20, 1957. Both appointments recognized for M.R.C.O.G. Department under control of 3 Consultant Obstetricians, 115 maternity beds, 100 neonatal cots and 60 gynaecological beds. Detailed applications, with copies of three recent testimonials, to Group Secretary. (7409)

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

Raigmore Hospital (408 beds)

HOUSE OFFICER (Obstetrics)
male, required from February 1, 1957 (Maternity Unit 60 beds). Post recognized for D.R.C.O.G. Registered practitioner or second pre-registration post. Preference given to applicants who have completed National Service. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness, by January 10, 1957. (7228)

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE

All Saints' Hospital, Chatham

OBSTETRIC HOUSE SURGEON
required. Post, which is tenable for six months, is recognized for D.R.C.O.G. and for pre-registration. Salary £425 to £525 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, together with copies of recent testimonials, to the Hospital Secretary. (7370)

MID-GLAMORGAN HOSPITAL MANAGEMENT COMMITTEE

Bridgend General Hospital, Quarella Road, Bridgend (381 beds)

Applications are invited for the post of
HOUSE SURGEON
(Obstetrics and Gynaecology)
This hospital is recognized for the M.R.C.O.G. Appointment available February 1, 1957. Applications, naming two referees, to be addressed to the Group Secretary of the Committee, 8, Wind Street, Neath. (7406)

MID-GLAMORGAN HOSPITAL MANAGEMENT COMMITTEE

Neath General Hospital, Neath (412 beds)

Applications are invited for the post of
HOUSE SURGEON
(Obstetrics and Gynaecology)
This hospital is recognized for the M.R.C.O.G. Appointment available February 1, 1957. Applications, naming two referees, to be addressed to the Group Secretary of the Committee, 8, Wind Street, Neath. (7407)

NORTH-WEST DURHAM HOSPITAL MANAGEMENT COMMITTEE

Shotley Bridge General Hospital, Shotley Bridge, Consett, Co. Durham

RESIDENT HOUSE OFFICER
Required for six months for duties in Obstetrical (30 beds) and Gynaecological (43 beds) Departments. Residents at Richard Murray Maternity Hospital. Recognized for D.Obst.R.C.O.G. Second pre-registration or post-registration appointment. Apply to the Group Secretary, stating age and experience, and enclosing copies of three recent testimonials. (7522)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL GENERAL HOSPITAL GROUP

Alexandra Maternity Home, Devonport, and Fiefg Maternity Home, Ermington

HOUSE OFFICER IN OBSTETRICS
vacant March 14, 1957.—Deputy Group Secretary, 7, Nelson Gardens, Stoke, Plymouth. (7464)

ROYAL INFIRMARY (300 beds), Sunderland

HOUSE OFFICER (Male)
required for duties in Gynaecological and Urological Units. Post vacant January, 1957. Provisionally registered practitioners may apply. Applications, naming two referees, to the Hospital Secretary, Royal Infirmary, Sunderland. (7429)

TREVALYN MANOR MATERNITY HOSPITAL Rossett, near Wrexham (47 beds)

Applications are invited for the post of
HOUSE SURGEON
at the above hospital, to commence duties on February 1, 1957. The hospital is recognized by Central Midwives' Board as a Part II Midwifery Training School and deals with normal and abnormal midwifery. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent to the Group Secretary, Maelor General Hospital, Wrexham, as soon as possible. (7271)

THE MOTHERS' HOSPITAL (Salvation Army), Clapton, E.5 (Maternity), 110 beds)

Applications are invited for the following six months' resident posts:
(a) REGISTERED OBSTETRIC HOUSE SURGEONS
(Two posts, vacant February 1 and March 1)
(b) Pre-registration (second post) OBSTETRIC HOUSE SURGEON
(Vacant March 1)
Posts recognized for M.R.C.O.G. Apply Group Secretary, Hackney Hospital, London, E.9, by January 10, quoting MH (a) or (b). (7169)

BETHNAL GREEN HOSPITAL Cambridge Heath Road, London, E.2

HOUSE SURGEON
Pre-registration, Obstetrics and Gynaecology, required January 23, 1957. Applications, with copies of two testimonials, to Hospital Secretary. (Pr.7514)

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

Royal Northern Infirmary (222 beds)

HOUSE OFFICER (Gynaecology)
required from February 1, 1957. Pre-registration post. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness, by January 10, 1957. (Pr.7229)

EAST CUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the following appointments for the six months' period commencing February 1, 1957:
Cumberland Infirmary, Carlisle (330 beds)
ONE HOUSE OFFICER
Gynaecology with some Obstetrics
City Maternity (65 beds) and City General (188 beds) Hospitals, Carlisle
ONE HOUSE OFFICER
Obstetrics and Gynaecology (recognized for the D.R.C.O.G. examination).
The above posts are recognized for pre-registration purposes.
Applications, stating age and giving details of education, training and experience, together with the names of two referees, should be sent to the Group Secretary, Cumberland Infirmary, Carlisle. (Pr.7317)

FORTH PARK MATERNITY HOSPITAL Kirkcaldy (54 beds)

RESIDENT HOUSE OFFICER
required for duties commencing April 1, 1957. The post is recognized for pre-registration and as qualifying service for the D.R.C.O.G. Apply, with testimonials or the names of two referees, to the Medical Superintendent, East Fife Hospitals Board of Management, 243A, High Street, Kirkcaldy. (Pr.7477)

GLOUCESTERSHIRE ROYAL HOSPITAL (Great Western Road Branch)

GYNAECOLOGICAL HOUSE SURGEON
required. Post which is vacant on February 1, 1957, is recognized for pre-registration service and the M.R.C.O.G. Applications, naming two referees, to the Group Secretary, Royal Hospital, Southgate Street, Gloucester. (Pr.7390)

ROYAL GWENT HOSPITAL, Newport (260 beds)

GYNAECOLOGICAL HOUSE SURGEON
required. Recognized pre-registration service. Covers 20 beds. Write, quoting two referees, to T. A. Jones, Group Secretary, 64, Cardiff Road, Newport, Mon. (Pr.6588)

OPHTHALMOLOGY

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

PART-TIME ASSISTANT OPHTHALMOLOGIST (S.H.M.O. grade)
for three sessions a week at Stratford School Clinic, 84, West Ham Lane, E.15. Applications (six copies), and names of three referees, should reach the Secretary, 11a, Portland Place, W.1, by Saturday, January 19. (7503)

MANCHESTER REGIONAL HOSPITAL BOARD

Part-time (six half-days weekly)
ASSISTANT OPHTHALMOLOGIST (S.H.M.O.)
Preston and Chorley Group of Hospitals, mainly at Preston Royal Infirmary. Higher qualification desirable, good experience essential. Appointee will work under guidance of Consultant Ophthalmic Surgeon. Application forms from Senior Administrative Medical Officer to the Board, Cheetwood Road, Manchester, 8, to be returned by January 8, 1957. (7402)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment:
ASSISTANT OPHTHALMOLOGIST
based at the Glasgow Eye Infirmary. The appointment is whole-time or part-time (nine sessions per week). Salary (at age 32 and over) on the scale £1,575 by £50 to £2,025. Applications (16 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, not later than 30 days after the publication of this advertisement. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7345)

COVENTRY & WARWICKSHIRE HOSPITAL (354 beds—36 Ophthalmology)

REGISTRAR, OPHTHALMOLOGY
Vacant February 28, 1957. Recognized D.O. and F.R.C.S. Ophthalmology. Experience specialty essential. Non-resident. Applications to Secretary, Group 20 Hospital Management Committee, Stoney Stanton Road, Coventry, to be returned by January 14, 1957. Candidates may visit hospital. (7318)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment, which will be for one year in the first instance:
REGISTRAR IN OPHTHALMOLOGY
based at the Glasgow Eye Infirmary. Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, by January 19, 1957. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7419)

THE QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, E.2

OPHTHALMIC ASSISTANT
required from March, 1957. Attendance required on Thursday mornings. Salary £175 per annum. Applications, with copies of available testimonials, to Group Secretary. (7515)

STAINES GROUP HOSPITAL MANAGEMENT COMMITTEE

Ashford Hospital, Ashford, Middlesex

CLINICAL ASSISTANT
for Ophthalmic Unit required for two notional half-days per week, at present Monday a.m. and Wednesday p.m. £175 per annum per half-day. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to Medical Director of hospital immediately. (7144)

GUILDFORD ROYAL SURREY COUNTY HOSPITAL (233 beds)

SENIOR HOUSE OFFICER
for Ophthalmology and Neurology. Post is vacant on January 24, 1957. Resident accommodation is available. It is tenable for six months and renewable. Whitley Council terms. Recognized for both F.R.C.S. and D.O. examinations. Apply as soon as possible, with copies of three testimonials, to Hospital Secretary. (7478)

Ophthalmology—contd.

NORTH STAFFORDSHIRE ROYAL INFIRMARY (455 beds)

SENIOR HOUSE OFFICER (Ophthalmology)

required. Recognized F.R.C.S. and D.O. Applications to Group Secretary, Hospital Management Committee, Princes Road, Stoke-on-Trent. (7319)

NOTTINGHAM & MIDLAND EYE INFIRMARY

SENIOR HOUSE OFFICER

required, duties to commence on January 13, 1957. Salary and conditions of service in accordance with Ministry Regulations. A furnished flat is available for married candidates, if required. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the Group Secretary, General Hospital, Nottingham. (6851)

SUNDERLAND EYE INFIRMARY (60 beds) (Recognized for D.O. and F.R.C.S.)

SENIOR HOUSE OFFICER

male or female, required at the above hospital large Out-patient Department. Vacant January, 1957. Establishment of full-time Junior Staff of three S.H.O.s. Excellent facilities for postgraduate study and clinical and operative experience. In addition every opportunity is given to attend lectures at the neighbouring University 12 miles away. Apply immediately, naming two referees, to the Hospital Secretary, Eye Infirmary, Alexandra Road, Sunderland. (7430)

GLASGOW EYE INFIRMARY

RESIDENT HOUSE OFFICER

required immediately. Appointment is for six months and qualifies for pre-registration period in Surgery. Salary scale £425 to £525 per annum. Applications to Medical Superintendent, Glasgow Eye Infirmary, 174, Berkeley Street, Glasgow C.3. (7501)

ROYAL EYE AND EAR HOSPITAL Bradford, 1

JUNIOR HOUSE SURGEON (Ophthalmology)

Vacant February 7, 1957. Recognized for D.O.M.S. and F.R.C.S. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6998)

ORTHOPAEDICS

ST. THOMAS' HOSPITAL, London S.E.1

SURGEON to the Orthopaedic Department

Consultant status, with membership of the Medical Committee. Five sessions per week. Vacant September, 1957. Applications (12 copies), naming three referees, to the Clerk of the Governors by February 8, 1957. (7516)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

REGISTRAR

required in the Orthopaedic and Fracture Department of the Royal Northern Hospital, Holloway, London, N.7 (279 beds). The department has a very large fracture clinic. Candidates may visit the hospital by direct appointment. Application forms obtainable from, and returnable to, the Secretary, Royal Northern Hospital, N.7, by January 15, 1957. (7517)

EASTERN REGIONAL HOSPITAL BOARD (Scotland) Orthopaedics

Applications are invited for the post of

SENIOR REGISTRAR
in the Regional Orthopaedic Service

based on Dundee Royal Infirmary (534 beds—50 fracture and orthopaedic), which is a teaching hospital, and Bridge of Earn Hospital, Perthshire (606 beds—280 fracture and orthopaedic). Higher surgical qualification and previous experience essential. Further particulars and forms of application from the Secretary to the Board, 430, Blackness Road, Dundee, with whom applications must be lodged not later than January 19, 1957. (7453)

ROYAL ORTHOPAEDIC HOSPITAL Birmingham

ORTHOPAEDIC REGISTRAR

F.R.C.S. desirable, experience in orthopaedic surgery. Resident. Application forms from Secretary, Birmingham (Selly Oak) H.M.C., Oak Tree Lane, Birmingham, 29, to be returned by January 14, 1957. Candidates may visit hospital. (7320)

ST. ALFEGE'S HOSPITAL (363 beds) Recognized for F.R.C.S. Examination

RESIDENT SENIOR HOUSE OFFICER (Orthopaedics and General Surgery)

Vacant approximately mid-February, 1957. Six months' appointment (renewable). Applications and testimonials to Secretary, G. and D./H.M.C. at above hospital. (7367)

GLOUCESTERSHIRE ROYAL HOSPITAL Great Western Road (350 beds)

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

to the Orthopaedic and Traumatic Surgery Unit (100 beds). Applications, stating age, nationality, qualifications and experience, should be sent to the Physician Superintendent, Gloucestershire Royal Hospital, Great Western Road, Gloucester. (7391)

HARLOW WOOD ORTHOPAEDIC HOSPITAL near Mansfield, Notts (338 beds)

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER

The hospital deals not only with long-term orthopaedic but also with all other types of cases, including traumatic work. The post is recognized for examination purposes by the Royal College of Surgeons. Applications to Group Secretary, Nottingham No. 5 H.M.C., Ransom Hospital, Rainworth, near Mansfield. (7469)

KENT AND SUSSEX HOSPITAL Tunbridge Wells (303 beds)

Applications invited for post of

SENIOR HOUSE OFFICER (Orthopaedics)

Vacant March 1, 1957. Recognized for F.R.C.S. Apply, giving age, qualifications, experience, with copy testimonials, to Group Secretary, Sherwood Park, Pembury Road, Tunbridge Wells. (7035)

KILMARNOCK INFIRMARY

SENIOR HOUSE OFFICER (Orthopaedics)

now vacant. Provides wide experience in orthopaedic surgery under specialist supervision. Resident. National terms. Apply immediately, Area Medical Superintendent, 1, Hill Street, Kilmarnock. (7479)

ROYAL BUCKINGHAMSHIRE HOSPITAL Aylesbury

SENIOR HOUSE OFFICER

in Accident and Orthopaedic Surgery and Children's Surgery. Recognized for F.R.C.S. Apply, with two recent testimonials, to Secretary-Superintendent. (7118)

ROYAL CORNWALL INFIRMARY, Truro Orthopaedic and Accident Department of 120 beds

SENIOR HOUSE OFFICER

Two Senior House Officers required for January 17 and 20, 1957. These posts offer great experience in Orthopaedic and Accident Surgery, covering most of the County of Cornwall, with Out-Patients Clinics at seven peripheral hospitals. Applications, stating nationality, age, qualifications, and experience, together with two recent references, to be addressed to the Hospital Secretary, Royal Cornwall Infirmary, Truro. (7283)

SHOTLEY BRIDGE GENERAL HOSPITAL Shotley Bridge, Consett, Co. Durham (533 beds)

SENIOR HOUSE OFFICER or JUNIOR HOSPITAL MEDICAL OFFICER (Orthopaedics)

Vacant early January, 1957. Required for Orthopaedic Department (58 beds). This hospital is the centre to which trauma from a large industrial and mining area is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, stating age, qualifications, experience, with copies of two recent testimonials, to be sent to Group Secretary. (7549)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

General Hospital (303 beds), Ayresome Green Lane, Middlesbrough

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedics)

The appointment is recognized for the F.R.C.S. examination and will include some duties in the Casualty Department, which is under the supervision of a full-time Senior Casualty Officer. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent to the Hospital Secretary. (7346)

ASHFORD HOSPITAL, Ashford, Kent

Applications are invited for the appointment of

HOUSE SURGEON (Orthopaedics)

at the above hospital, which is recognized for pre-registration service. Salary £425, £475 or £525 a year, according to experience, less £125 a year for residential emoluments. Applications, stating qualifications, experience, and the names and addresses of two referees, to the Group Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7492)

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

Raigmore Hospital (408 beds)

HOUSE OFFICER
in Fracture and Orthopaedic Surgery

(Orthopaedic Department 140 beds), required from February 1, 1957. This Unit receives and treats all acute fractures and bone or joint injuries from a wide area, and is the Regional Orthopaedic Centre. Pre-registration post. Also open to registered practitioners. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness, by January 10, 1957. (7230)

PEACE MEMORIAL HOSPITAL, Watford, Herts (208 beds)

ORTHOPAEDIC HOUSE SURGEON (with certain Casualty Duties)

required. Post recognized for F.R.C.S. (Eng.) Examination. Intermediate or Senior Post, depending on experience, for Orthopaedic Unit (30 beds). The Orthopaedic Service is in charge of a Consultant and Registrar closely associated with a Postgraduate Teaching Hospital. Applications, with copies of two testimonials, to the Administrator. (7201)

ROYAL BUCKINGHAMSHIRE HOSPITAL Aylesbury

HOUSE OFFICER

in Accident and Orthopaedic Surgery and Children's Surgery. Recognized for F.R.C.S. Pre-registration post, but registered practitioner invited to apply. Apply, with two recent testimonials, to Secretary-Superintendent. (7119)

PAEDIATRICS

ROYAL HOSPITAL FOR SICK CHILDREN Glasgow

RESEARCH FELLOW in Paediatrics

See University and Research Appointments. (7552)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN AND THE MOTHERS' HOSPITAL (S.A.), Hackney

PAEDIATRIC REGISTRAR (Non-resident)

Vacant March 1. Experience in diseases of children essential. Appointment subject to review after one year. Application forms from Secretary, N.E. Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, to be returned by January 12, 1957. (7555)

NORTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

Applications are invited from medical practitioners for the full-time post of

SENIOR REGISTRAR

in Medical Paediatrics at the Royal Hospital for Sick Children, Aberdeen. Experience in the specialty is required and a higher qualification will be an advantage. Applications, together with the names and addresses of two persons to whom reference may be made, should be forwarded by January 10, 1957, to the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (7177)

THE UNITED SHEFFIELD HOSPITALS

Children's Hospital Unit

Applications invited for the non-resident post of

SENIOR REGISTRAR IN PAEDIATRICS

at the above hospital. Applications, stating age, qualifications, and experience, with the names of three referees, should be sent not later than January 16, 1957, to the Chief Administrative Officer, The United Sheffield Hospitals, West Street, Sheffield, 1. (7444)

THE HOSPITAL FOR SICK CHILDREN Great Ormond Street, London, W.C.1

There will be vacancies for the following Senior House Officers on April 15, 1957:

ONE HOUSE PHYSICIAN
ONE HOUSE SURGEON

Further particulars and form of application, which must be returned not later than Monday, February 4, 1957, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (7462)

CHILDREN'S HOSPITAL (83 beds), Sunderland

SENIOR HOUSE OFFICER (Paediatrics)

male or female, required, previous experience, though desirable, is not essential. The hospital provides good facilities for D.C.H. examination. Salary £745 per annum. Vacant mid-February. Apply, naming two referees, to the Hospital Secretary, Royal Infirmary, Sunderland. (7481)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

Paediatrics—contd.

MOSELEY HALL HOSPITAL FOR CHILDREN
Alcester Road, Birmingham, 13 (65 beds)

SENIOR HOUSE OFFICER (Paediatric)

Vacant January, 1957. Resident or non-resident. Recognized for D.C.H. Apply, with three testimonials, to Secretary, Birmingham (Selly Oak) Hospital Management Committee, Oak Tree Lane, Birmingham, 29. (7094)

VICTORIA HOSPITAL FOR SICK CHILDREN
Park Street, Hull

RESIDENT SENIOR HOUSE OFFICER

required as from February 18, 1957. The officer appointed will supervise the House Staff, and also be in charge of the Casualty Department. Salary and emoluments according to National Scales. Applications, with testimonials, should be sent to the Hospital Secretary. (7233)

CHILDREN'S HOSPITAL, Sydenham, S.E.26

HOUSE OFFICER (Medicine and Surgery)

required March 1. Recognized for D.C.H. Apply, naming two referees, to Administrative Officer by January 9. (7463)

EVELINA CHILDREN'S HOSPITAL of GUY'S HOSPITAL
Southwark Bridge Road, London, S.E.1

RESIDENT HOUSE PHYSICIAN
(with Casualty Duties)

for six months from February 1, 1957. Appointment recognized for the D.C.H. Candidates must be registered practitioners and should apply, giving age, nationality, qualifications (with dates), and copies of three recent testimonials, to the Hospital Secretary by January 9, 1957. (7474)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18

PAEDIATRIC HOUSE PHYSICIAN
(Recognized for D.C.H.)

Vacant early in February. Not pre-registration. The post entails routine ward and out-patient work as well as experience with neonates and includes general and casualty duties. Apply to Group Secretary, Memorial Hospital, Woolwich, S.E.18. (7551)

CHILDREN'S HOSPITAL (83 beds), Sunderland

HOUSE OFFICER (Paediatrics)

male or female, required. Post vacant early March. Provisionally registered practitioners may apply. This post gives experience in acute medical and surgical diseases and is recognized for the D.C.H. Previous experience, though desirable, not essential. Apply, naming two referees, to the Hospital Secretary, Royal Infirmary, Sunderland. (7482)

ROYAL HOSPITAL FOR SICK CHILDREN
Yorkhill, Glasgow C.3

Applications are invited for the post of

MEDICAL OFFICER (House Officer grading)

to the Out-patient Department of the above hospital, for the period February 1 to July 31, 1957. This post is non-resident. Applications to Medical Superintendent. (7392)

ROYAL HOSPITAL FOR SICK CHILDREN
Yorkhill, Glasgow C.3

Applications are invited for the post of

RESIDENT HOUSE SURGEON

at the above hospital, for the period February 1 to July 31, 1957. Applications to Medical Superintendent. (7393)

WESTMINSTER HOSPITAL TEACHING GROUP

Westminster Children's Hospital

TWO HOUSE PHYSICIANS
(both Second Pre-registration)
ONE HOUSE SURGEON
(Pre-registration)

Required for six months, from February 1, 1957. Applications, with copies of testimonials, should reach the Secretary, Westminster Children's Hospital, Vincent Square, S.W.1, by January 11, 1957. (Pr.7531)

MAELOR GENERAL HOSPITAL, Wrexham
(591 beds)

Applications are invited for the post of

PAEDIATRIC HOUSE PHYSICIAN

at the above hospital, to commence February 1, 1957. The appointment is recognized for the D.C.H. and for pre-registration purposes. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Group Secretary, Maelor General Hospital, Wrexham, as soon as possible. (Pr.7272)

HALIFAX GENERAL HOSPITAL (425 beds)

HOUSE PHYSICIAN

required for Paediatric Unit of 35 beds. Approved pre-registration appointment and recognized for D.C.H. Post vacant February 1, 1957. Apply to the Group Secretary, Royal Halifax Infirmary. (Pr.7158)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE

Royal Portsmouth Hospital

HOUSE OFFICER (Paediatric and Medical)

30 beds. Pre-registration. Vacant January 16. Applications, stating age, experience and qualifications, together with the names of two referees, should be forwarded as soon as possible to E. H. Hurst, St. Mary's Hospital, Milton Road, Portsmouth. (Pr.6874)

PATHOLOGY

ST. MARY'S HOSPITAL, W.2

Applications are invited from suitably qualified medical practitioners for the post of

REGISTRAR
to the Department of Chemical Pathology

The appointment is for a first period of twelve months as from a date to be arranged. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), details, and National Health Service gradings of previous and present appointments, together with the names and addresses of three referees, should reach Alan Powditch, House Governor, by January 22, 1957. (7508)

KINGSTON GROUP HOSPITAL MANAGEMENT COMMITTEE

REGISTRAR IN PATHOLOGY

required at Group Laboratory, Kingston Hospital. Excellent experience and training in all branches. Non-resident but some emergency duties and residence may be arranged. Forms of application may be obtained from the Group Secretary, Kingston Group Hospital Management Committee, 35, Coombe Road, Kingston, and these should be returned within 14 days of the appearance of this advertisement. The laboratory may be visited on application to the Group Pathologist, Kingston 9844. (7273)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

REGISTRAR in the Department of Pathology

The Department serves four General Hospitals and offers excellent facilities in all branches of Pathology. The post is recognized for the Diploma in Pathology. Applications, with two referees, by January 14, 1957, to Group Secretary, Crumpsall Hospital, Manchester. (7284)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

REGISTRAR IN PATHOLOGY

required at Barnet General Hospital, Wellhouse Lane, Barnet, Herts (461 beds). Appointment for one year in first instance, to commence February 20, 1957. Further details may be obtained from the Pathologist. Application forms from, and returnable to, Group Secretary, Barnet Group H.M.C., 1, Wellhouse Lane, Barnet, Herts, by January 23, 1957. (7556)

THE UNITED SHEFFIELD HOSPITALS

Applications invited for the post of

REGISTRAR IN CLINICAL PATHOLOGY

The successful candidate may be required to work in any of the laboratories of the United Sheffield Hospitals. Applications, stating age, qualifications and experience, with the names of three referees, should be sent not later than January 19, 1957, to the Chief Administrative Officer, the United Sheffield Hospitals, West Street, Sheffield, 1. (7442)

STOKE-ON-TRENT HOSPITAL MANAGEMENT COMMITTEE

APPOINTMENT OF RESIDENT ASSISTANT CLINICAL PATHOLOGIST

Resident Assistant Clinical Pathologist to the Stoke-on-Trent Group of Hospitals, vacant shortly. Single accommodation at North Staffordshire Royal Infirmary. The post is J.H.M.O. status, but applicants with less than two years' qualification period will be considered in the grade of S.H.O. Experience in hospital laboratory work. Recognized for D.C.P. and Diploma in Pathology. Detailed applications, with particulars of previous appointments held (two testimonials), to Group Secretary, H.M.C., Princes Road, Stoke-on-Trent, as soon as possible. (7321)

WOLVERHAMPTON GROUP

The Royal Hospital

JUNIOR PATHOLOGIST

required. Salary in J.H.M.O. grade. Comprehensive service offering wide experience and training. Post vacant shortly. Candidates may visit Pathologist. Applications to Group Secretary, the Royal Hospital, Wolverhampton. (7454)

PHYSICAL MEDICINE

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Full or maximum part-time

CONSULTANT PHYSICIAN IN PHYSICAL MEDICINE

to Tottenham Group of Hospitals, based on Prince of Wales's Hospital, N.15. Residence within reasonable distance of hospital. Applications (six copies), and names of three referees, should reach the Secretary, 11a, Portland Place, W.1, by Saturday, January 19. (7504)

KING'S COLLEGE HOSPITAL
Denmark Hill, S.E.5

Applications are invited for the post of

REGISTRAR

in the Department of Physical Medicine, to fill a casual vacancy from February 1, 1957, until the annual election of the appointment, to run from October 1 next. Preference will be given to candidates with experience in general medicine and holding the M.R.C.P. who wish to specialize in physical medicine. Previous experience in this specialty is desirable but not essential. Applications, together with the names of two referees, should be submitted to the undersigned not later than January 19, from whom further particulars may be obtained.—S. W. Barnes, House Governor. (7538)

PLASTIC SURGERY

BANGOUR GENERAL HOSPITAL
West Lothian (near Edinburgh)
Maxillo-Facial and Plastic Surgery Unit

Applications are invited for the appointment as

REGISTRAR

in the Maxillo-Facial and Plastic Surgery Unit. Salary and conditions of service in accordance with regulations. Applications, with full particulars of qualifications and experience, together with names of three referees, should reach the Group Secretary and Treasurer, Board of Management, Bangour Hospital, Broxburn, West Lothian, within 14 days. (7483)

BANGOUR GENERAL HOSPITAL
West Lothian (near Edinburgh)
Maxillo-Facial and Plastic Surgery Unit

Applications are invited for an appointment as

HOUSE OFFICER

in the Maxillo-Facial and Plastic Surgery Unit of Bangour General Hospital, Broxburn. Salary and conditions of service will be in accordance with the regulations. Applications, giving age, qualifications, and particulars of previous experience, if any, should be lodged with the Group Secretary and Treasurer, Board of Management, Bangour Hospital, Broxburn, West Lothian. (7484)

PSYCHIATRY

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

CONSULTANT PSYCHIATRIST

four or five half-days a week (one evening session essential) Portman Clinic, 8, Bourdon Street, Davis Street, W.1. Clinic is concerned with the diagnosis and treatment of adults and children, including delinquents and other social problem cases, and previous experience in these fields, together with research interests, will be an advantage. Preference will be given to candidates with analytic training. Clinic may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, before February 6, 1957. (7526)

Psychiatry—contd.

NEWCASTLE REGIONAL HOSPITAL BOARD

Newcastle General Hospital
Department of Psychological Medicine

CONSULTANT PSYCHIATRIST
(Child Guidance)

whole-time or maximum part-time, for a detached Child Guidance Unit to be opened at the above hospital. The person appointed will be responsible for the organization of the work of the clinic, for which a staff of two Medical Officers, a Psychologist and a Psychiatric Social Worker has been provided initially, with additional sessions by visiting Psychiatrists. The clinic will work in co-operation with the Department of Paediatrics and will be closely associated with the University Department of Psychological Medicine under the general direction of the Professor of Psychiatry. It will be used as the training centre in the region for child psychiatry. The successful candidate will be expected to participate in teaching and research and will be given opportunities for devoting some time to adult psychiatry if he so wishes. It is anticipated that he will be offered appropriate university status. Full particulars from Regional Psychiatrist. Applications, with names and addresses of three referees, to Regional Psychiatrist, Regional Hospital Board, Benfield Road, Newcastle-upon-Tyne, 6, within 28 days. (7323)

THE UNITED CAMBRIDGE HOSPITALS

Applications are invited for the post of whole-time or maximum part-time

CONSULTANT PSYCHIATRIST

to the United Cambridge Hospitals from July, 1957. The successful applicant will also be offered an honorary contract with the East Anglian Regional Hospital Board. The main duties of the post will be at Addenbrooke's and Fulbourn Hospitals, Cambridge. The terms and conditions of service for hospital medical staff will apply. Applications, stating age, qualifications and experience, and the names of three referees, should reach the undersigned, from whom further details may be obtained, by February 16, 1957. The Advisory Appointments Committee will be held in March.—P. J. Bourne, Secretary, Addenbrooke's Hospital. (7322)

MANCHESTER REGIONAL HOSPITAL BOARD

WHOLE-TIME RESIDENT DEPUTY MEDICAL SUPERINTENDENT and ASSISTANT PSYCHIATRIST (S.H.M.O.)

Brookhall Hospital, Langho, near Blackburn (a modern and fully equipped colony of over 2,000 beds for mental defectives). Modern detached house available. Good experience in the care of mental defectives required. D.P.M. desirable. Application forms from the Senior Administrative Medical Officer to the Board, Cheetwood Road, Manchester, 8, to be returned by January 9, 1957. (7403)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited to fill a vacancy for a whole-time

ASSISTANT PSYCHIATRIST

at Leybourne Grange Colony, West Malling, Kent, which is an establishment for the training of mental defectives. Candidates must have had wide experience in Psychiatry and previous mental deficiency experience; possession of a higher qualification is desirable. Salary within the scale £1,575 by £50 to £2,025. A convenient unfurnished house is available for a married practitioner. Applicants may visit the hospital. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than January 19, 1957. (7339)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

REGISTRAR IN PSYCHIATRY

for seven half-days weekly at Child Guidance Clinic, Ealing. Candidates may visit clinic by direct appointment. (Telephone Perivale 9571.) Application forms obtainable from, and returnable to, Group Secretary, South-West Middlesex Hospital Management Committee, West Middlesex Hospital, Isleworth, by January 15, 1957. (7470)

THE NATIONAL HOSPITALS FOR NERVOUS DISEASES

Applications are invited from registered medical practitioners for the appointment of

PSYCHIATRIC REGISTRAR (Non-resident)

at The National Hospital, Queen Square, W.C.1. This post carries the grade of Senior Registrar. The appointment will be for a period of one year in the first instance. Applications, with names of three referees, to be sent to the undersigned not later than January 31, 1957.—H. Ewart Mitchell, Secretary to the Board of Governors, The National Hospitals for Nervous Diseases, Queen Square, London, W.C.1. (7435)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN PSYCHIATRY
Storthes Hall Hospital (2,750 beds)

Unfurnished flat available for married person. If desired, facilities for attendance at Leeds University will be provided if the successful candidate is studying for the D.P.M. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7325)

LEEDS REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR IN CHILD PSYCHIATRY

Person appointed will be under training at the Leeds University Department of Psychiatry and Associated Clinics, and will have experience at the Local Authority Child Guidance Department and at a Special School for Maladjusted Boys. Applications, stating age, qualifications, details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by January 18, 1957. (7120)

NEWCASTLE REGIONAL HOSPITAL BOARD

REGISTRAR PSYCHIATRIST

whole-time, resident, at St. Luke's Hospital, Middlesbrough. Single or married, furnished or unfurnished accommodation available. Arrangements can be made for the appointee to take the necessary courses of study for the University of Durham D.P.M. Applications, with names and addresses of three referees, to Regional Psychiatrist, Regional Hospital Board, Benfield Road, Newcastle-upon-Tyne, 6, within seven days. (7324)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

WHOLE-TIME PSYCHIATRIC REGISTRAR

non-resident, required for the Hertfordshire Child Guidance Service. This service undertakes the investigation and treatment of a very wide range of problems in patients whose ages range from infancy to late adolescence. Previous psychiatric experience necessary. Headquarters may be visited by direct appointment with the Medical Director of the Clinic, Hill End, St. Albans. Telephone: St. Albans 55555. Application forms obtainable from, and returnable to, Secretary, Mid-Herts Group Hospital Management Committee, Bleak House, Catherine Street, St. Albans, by January 19, 1957. (7326)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

REGISTRAR

required at Harperbury Hospital, St. Albans, Herts. This is a modern hospital where 1,729 mental defectives of all types and ages are under care. Approved for D.P.M. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, Group Secretary, Hospital Management Committee, Harperbury Hospital, St. Albans, Herts. (7375)

SHENLEY HOSPITAL

PSYCHIATRIC REGISTRAR

Applications are invited for the above-named post, resident or non-resident, for one year in the first instance, at Shenley Hospital, 2,360 beds (16 miles from London). Opportunity for work with neurotic and psychotic patients. Full facilities for training. The hospital may be visited by appointment. Application forms obtainable from, and returnable to, Secretary, Shenley Hospital, near St. Albans, Herts, by February 3, 1957. (7557)

SOUTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

REGISTRAR

at Bangour Mental Hospital, Broxburn, West Lothian. During the tenure of the post opportunities for interchange of duty and training at other centres in the Region may be available under the joint training scheme of the South-Eastern Regional Hospital Board and the Department of Psychological Medicine of the University of Edinburgh. Apply, giving particulars of age, qualifications and previous experience, together with the names of two referees, to the Secretary, 11, Drumsheugh Gardens, Edinburgh, 3, by January 26, 1957. (7433)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Psychiatric Registrars Training Scheme

Applications are invited for the appointment of

REGISTRAR

for six months' periods at the Hospitals Knowle, Fareham; Coldeast, Salisbury, near Southampton; St. James', Portsmouth; and Moorgreen, Southampton, in succession. These appointments afford wide experience in the treatment of all forms of nervous and mental disorder, including cases admitted to the Observation Ward at Moorgreen Hospital, and in mental deficiency. In addition there are special opportunities for experience in the Department of Child Psychiatry (in-patients and out-patients), in electro-encephalography and in neurology at St. James' Hospital. Salary, etc., in accordance with the agreed terms and conditions of service for Hospital Medical Staff. For residents appropriate charges are made for full residential amenities. Candidates may visit the hospitals by appointment with the Physicians Superintendent. Application forms may be obtained from the Group Secretary, Knowle Hospital, Fareham, Hants, to whom five copies should be sent within two weeks of the appearance of this advertisement. (7285)

THE BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD

South Somerset Clinical Area

Applications are invited by the above Boards for the joint appointment of

SENIOR REGISTRAR IN PSYCHIATRY

The appointment will be held for one year in the first instance but may be renewed thereafter on an annual basis. The successful candidate will be appointed to work for the first year mainly at Tone Vale Hospital, near Taunton, which provides treatment in all types of psychiatric cases, including psychotic children, and all forms of modern treatment; also attendance at out-patient psychiatric clinics and work in the electro-encephalographic department. He will also be required to visit other hospitals in the clinical area as determined by the Regional Board from time to time. A flat suitable for a married man or single quarters will be available in the hospital. Applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park Road, Bristol, 8, not later than January 23, 1957. (7416)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

MEDICAL INSURANCE AGENCY LTD.

Chairman: James Fenton, CBE, MD. General Manager: A. N. Dixon, ACII. Hon. Secretary: Henry Robinson, MD, DL, JP.

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Psychiatry—contd.

THE BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited by the above Boards for the joint appointment of

REGISTRAR IN PSYCHIATRY

The successful candidate will be based on the Bristol Mental Hospital Group (Barrow and Fishponds Hospitals, Bristol Neurosis Centre and Bristol Day Hospital). The appointment, which may be resident or non-resident, will be held for one year in the first instance and be renewable for a further year. The post offers excellent opportunities for special postgraduate experience in psychiatry and for research work for the preparation of a thesis for higher qualifications. There are departments of electro-encephalography, experimental and applied psychology. There is a psychiatric library at Barrow Hospital. Applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park Road, Bristol, 8, not later than January 23, 1957. (7417)

BIRMINGHAM (No. 8) HOSPITAL MANAGEMENT COMMITTEE

Moseley Hall Hospital, Kings Heath, Birmingham, 14

Applications are invited for the appointment of a

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident or non-resident)

This mental deficiency hospital offers good experience in all branches of the investigation and training of mental defectives. In addition, there are opportunities to gain experience with E.S.N. children and in child psychiatry at St. Francis Residential Special School, which is associated with the hospital. There is a large, well developed psychological department staffed by three clinical psychologists. The hospital is recognized for the first year of the training for the D.P.M. Accommodation for a single person is available. Applications, giving full personal particulars, qualifications and experience, together with the names and addresses of two referees, to be sent to the Medical Superintendent at the above hospital within two weeks of the appearance of this advertisement. (7245)

KNOWLE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

at the Old Manor Hospital, Salisbury, Wilts (Mental). All forms of modern treatment are undertaken and previous psychiatric experience is not essential. Single residential accommodation is available, but officers who so desire may live outside the Hospital. Terms and conditions of service as approved for Hospital Medical Staff employed in the National Health Service. Salary £775 by £50 to £1,075. Applications should be sent without delay to the Physician Superintendent, Knowle Hospital, Fareham, Hants. (7286)

RADIOLOGY

HOSPITALS FOR DISEASES OF THE CHEST

The Board of Governors invites applications for two appointments of

CONSULTANT RADIOLOGIST (Diagnostic)

tenable in the first instance at London Chest Hospital. Applicants must hold a Diploma in Diagnostic Radiology. The duties to be covered involve three half-days each week (Mondays, Wednesdays and Fridays) at the hospital, Victoria Park, E.2, and one half-day in alternate weeks at the country unit at Arlesley, near Letchworth. This range of duties is to be shared equally between the two successful candidates on a fixed rotational schedule, details of which will be given to intending applicants. Applications (12 copies), stating date of birth, qualifications and experience, in full, with names of three referees, to reach the undersigned not later than February 16, 1957.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (7506)

ST. MARY'S HOSPITAL, W.2

Applications are invited for the whole-time post of

SENIOR REGISTRAR
to the Diagnostic Radiological Department

of St. Mary's Hospital. The appointment is for a first period of twelve months, with effect from March 11, 1957. Remuneration to be at "Senior Registrar" rates. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), details and National Health Service gradings of previous and present appointments, together with the names and addresses of three referees, should reach Alan Powditch, House Governor, not later than January 15, 1957. (7150)

ST. MARY'S HOSPITAL

Applications are invited for the post of

REGISTRAR
to the Diagnostic Radiological Department

Possession of the Diploma in Radiology is essential. The appointment is for a first period of twelve months, with effect from March 11, 1957. Remuneration to be at "Registrar" rates. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), details and National Health Service gradings of previous and present appointments, together with the names and addresses of three referees, should reach Alan Powditch, House Governor, not later than January 15, 1957. (7151)

LEEDS REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR IN RADIOLOGY

at the General Infirmary at Leeds (7 notional half-days per week), and the County Hospital, York (4 notional half-days per week). Applications, stating age, qualifications, details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, by January 18, 1957. (7122)

THE UNITED CARDIFF HOSPITALS

Applications are invited for the post of

SENIOR REGISTRAR

in the Department of Diagnostic Radiology at the Cardiff Royal Infirmary. Candidates must hold a Diploma in Medical Radiology. Application forms may be obtained from the Secretary to the Board at the Cardiff Royal Infirmary, Newport Road, Cardiff, and should be returned within 14 days of the appearance of this advertisement. (7394)

THE UNITED LIVERPOOL HOSPITALS

Applications are invited for a temporary appointment to the post of

SENIOR HOUSE OFFICER IN RADIOLOGY

to take up duty as soon as possible for the period to September 30, 1957. Apply, by January 19, 1957, on form obtainable from the Secretary, 80, Rodney Street, Liverpool, 1. (7439)

RADIOTHERAPY

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN RADIOTHERAPY

Regional Radium Institute, Bradford (50 beds), preferably resident. Unit provides a complete Radiotherapy service for approximately 1 million population. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7327)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment, which will be for one year in the first instance:

SENIOR REGISTRAR IN RADIOTHERAPY

based at the Western Infirmary, Glasgow. Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, by January 26, 1957. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7533)

SURGERY

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment:

CONSULTANT SURGEON

to the Royal Alexandra Infirmary, Paisley, and associated hospitals. The appointment will be part-time on the basis of eight notional half-days per week. Applications (16 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, not later than 30 days after the publication of this advertisement. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7418)

NEW END HOSPITAL, Hampstead, N.W.3

REGISTRAR (General Surgery)

required for unit consisting of 93 beds with large thyroid department. Vacant February 13, 1957. F.R.C.S. desirable. The hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, the Group Secretary, Archway Group H.M.C., 46, Cholmeley Park, N.6, by January 14, 1957. (7274)

BOURNEMOUTH & EAST DORSET HOSPITAL MANAGEMENT COMMITTEE

Christchurch Hospital, Hants

Applications are invited for the appointment of

SURGICAL REGISTRAR

at the above Hospital of 340 beds, which includes a new surgical unit of 56 beds. This is a new post which will become available in March, 1957, and is consequent upon the upgrading of the Hospital. The post is tenable for one year in the first instance, and preference will be given to candidates holding higher qualifications. The successful candidates will be resident at the Hospital. Forms of applications are obtainable from the Group Secretary, H.M.C. Office, Royal Victoria Hospital, Gloucester Road, Boscombe, Bournemouth, and should be returned to him, duly completed, within 14 days of the appearance of this advertisement. (7287)

GEORGE ELIOT HOSPITAL, Nuneaton
(275 beds—54 surgical)

REGISTRAR, GENERAL SURGERY

Vacant February 28, 1957. Recognized F.R.C.S. Experience specialty essential. Resident. Applications to Secretary, Group 20 Hospital Management Committee, Stoney Stanton Road, Coventry, by January 14, 1957. Candidates may visit hospital. (7328)

LEEDS REGIONAL HOSPITAL BOARD

REGISTRAR IN GENERAL AND PLASTIC SURGERY

St. Luke's Hospital, Bradford (150 general surgical and 20 plastic surgical beds). Preferably resident. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names and addresses of three referees, to the Secretary, the Joint Registrars Committee, Park Parade, Harrogate, by January 11, 1957. (7331)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

WHOLE-TIME SURGICAL REGISTRAR

required early January at the Luton and Dunstable Hospital, Luton, Beds (250 beds). The post is recognized for F.R.C.S. The hospital may be visited by direct appointment. Application forms obtainable from the Secretary, Luton and Hitchin Group H.M.C., St. Mary's Hospital, Luton, Beds, and returnable as soon as possible. (7275)

ST. HELIER HOSPITAL, Carshalton, Surrey
(711 beds)

SURGICAL REGISTRAR

to one of the two general Surgical Units, comprising 70 beds. Post vacant April 1, 1957. Forms of application, to be returned by January 19, may be obtained from the Group Secretary at above address. (7329)

THE UNITED SHEFFIELD HOSPITALS

Royal Hospital Unit

Applications invited for the post of

REGISTRAR IN GENERAL SURGERY

with duties in the Urological Department at the above hospital. Post vacant February 15, 1957. Applications, stating age, qualifications and experience, with the names of three referees, should be sent not later than January 16, 1957, to the Chief Administrative Officer, the United Sheffield Hospitals, West Street, Sheffield, 1. (7443)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment, which will be for one year in the first instance:

REGISTRAR IN GENERAL AND ORTHOPAEDIC SURGERY

based at Dumfries and Galloway Royal Infirmary. Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, by January 19, 1957. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7420)

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment, which will be for one year in the first instance:

REGISTRAR IN SURGERY

based at Law Hospital, Carluke. Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, by January 26, 1957. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7534)

Surgery—contd.

SUNDERLAND AREA HOSPITAL MANAGEMENT COMMITTEE
Team No. 3—82 Surgical Beds

Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER or SENIOR HOUSE OFFICER
according to experience, at Ryhope General Hospital. This appointment also includes Out-patient experience at the Royal Infirmary and the Children's Hospital, Sunderland. The post, which is recognized for the F.R.C.S. examination, is vacant immediately. Apply immediately, naming two referees, to the Hospital Secretary, Lechoime Hospital, Easington, Co. Durham. (7431)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS

Chelsea Hospital for Women

HOUSE SURGEON (Senior House Officer)

Resident post, tenable for one year from April 1, 1957. Applications to the House Governor by January 18, 1957, on forms obtainable from 339, Goldhawk Road, London, W.6. (7380)

BRIDGWATER GENERAL HOSPITAL
Bridgwater, Somerset
(Bridgwater, Minehead and Butleigh Hospital Management Committee)

Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
at the above hospital. The appointment will be for a period of twelve months. Salary at the rate of £745 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications to the Group Secretary, address as above. (7276)

KING'S MILL HOSPITAL—172 beds

Applications are invited for the post of
HOUSE SURGEON (S.H.O.)
Vacant January, 1957. Recognized for F.R.C.S. Applications, stating age, qualifications, nationality, and experience, together with two names for reference, to Group Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts. (7340)

MID-GLAMORGAN HOSPITAL MANAGEMENT COMMITTEE

Neath General Hospital, Neath (412 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
This hospital is recognized for the F.R.C.S. Applications, naming two referees, to be addressed to the Group Secretary of the Committee, 8, Wind Street, Neath. (7404)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Ancoats Hospital, Manchester, 4

Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
to act as Assistant Resident Surgical Officer and for duties in the Department of Orthopaedic Surgery. Recognized for F.R.C.S. Vacant February 18, 1957. Applications, with two referees, by January 14, 1957, to Group Secretary, Crumpsall Hospital, Manchester, 8. (7330)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL GENERAL HOSPITAL GROUP

South Devon and East Cornwall Hospital, Greenbank Road, Plymouth

SENIOR HOUSE OFFICER IN SURGERY
vacant February 1, 1957. Recognized for F.R.C.S.—Deputy Group Secretary, 7, Nelson Gardens, Stoke, Plymouth. (7465)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

Stockton and Thornaby Hospital, Stockton-on-Tees

Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Surgery)
at the above hospital. The appointment, which falls vacant early in January, 1957, is recognized for the F.R.C.S. Applications, stating age, qualifications and experience, together with two names for reference, should be addressed to the Hospital Secretary. (6591)

THE GENERAL HOSPITAL, Batley

SENIOR HOUSE OFFICER (Resident)

Applications are invited for the post of Senior House Officer, Surgical, at the above hospital, which has 99 beds and deals with Orthopaedic Surgery, General Surgery, E.N.T. and Ophthalmology. The person appointed should have experience in Orthopaedic Surgery or should desire to pursue this specialty. Married accommodation can be provided, if necessary, and it is hoped that an appointment can be made for a term of one year. Applications, including testimonials, to be forwarded to the Administrative Officer at the hospital as soon as possible. (7288)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10

RESIDENT HOUSE OFFICERS
required in Surgical Department. Post-registration and pre-registration. Appointments for six months from February, 1957. Applications, with two testimonials, to Medical Director by January 12. (7505)

LAMBETH HOSPITAL, Kennington, S.E.11

Applications are invited from pre-registration and registered medical practitioners for the position of
RESIDENT HOUSE SURGEON
Vacant on February 11, 1957. The successful candidate will be required to carry out a fortnight's locum duty starting on January 28, 1957. Application forms from the Physician Superintendent. (7247)

MILE END HOSPITAL
Bancroft Road, London, E.1 (484 beds)

HOUSE SURGEON (Pre- or Post-registration)
Post vacant February 6, 1957. Application forms, obtainable from Physician Superintendent, should be returned by January 18, with copies of not more than three testimonials. (7518)

WEST LONDON HOSPITAL
Hammersmith Road, W.6

RESIDENT HOUSE SURGEON
(General and Genito-Urinary)
required March 1. Pre-registration candidates considered. Age, qualifications, experience, copies two recent testimonials, to Secretary by January 13. (7376)

AMERSHAM GENERAL HOSPITAL

RESIDENT HOUSE SURGEON
required immediately. This appointment in a busy general hospital (including 136 acute beds—six residents) affords excellent experience. Post recognized for F.R.C.S. examination. Pre-registration applicants considered. Apply, with names of two referees, to Secretary. (7131)

BANBURY, OXON, HORTON GENERAL HOSPITAL (163 beds)

HOUSE SURGEON
required end of January for general surgical and gynaecological beds. Pre-registration candidate considered. Four other residents. Hospital recognized for F.R.C.S. Active surgical department under direction of resident Consultant. Apply, stating age, nationality, qualifications, and names of two referees, to the Secretary. (6782)

BEDFORD GENERAL HOSPITAL (439 beds)

HOUSE SURGEON
required. Pre- or post-registration, recognized for F.R.C.S. Post offers exceptional opportunities for general experience in busy acute surgical units. Enquiries and applications, with copies of two recent testimonials, to Group Secretary, 3, Kimbolton Road, Bedford. (7552)

ESSEX COUNTY HOSPITAL, Colchester (185 beds)

Applications invited for post of
HOUSE OFFICER (Surgical)
First, second, third or pre-registration post, tenable for six months. Recognized for F.R.C.S. Applications, with copies of three testimonials, to Group Secretary, Colchester H.M.C., 14, Pope's Lane, Colchester, Essex. (7155)

GREAT YARMOUTH AND GORLESTON GENERAL HOSPITAL
Dene Side, Great Yarmouth

HOUSE SURGEONS (TWO)
male or female, required immediately. These are pre-registration posts. Salary £425, £475 or £525 per annum, according to experience, less deduction for board residence. Membership of a Medical Defence Society is a condition of appointment. Applications, stating age, qualifications and experience, with names of two referees, to Hospital Secretary. (7257)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, Three Resident Medical Officers)

PRE-REGISTRATION SECOND HOUSE SURGEON AND CASUALTY OFFICER
required February 4, 1957, for six months. (Post is recognized for F.R.C.S.) Salary £425 to £525, less £125 per annum for residential emoluments. Applications, stating usual particulars, together with names and addresses of two referees, to the Administrative Officer. (7396)

HULL (A) GROUP HOSPITAL MANAGEMENT COMMITTEE

Hull Royal Infirmary (Sutton)

Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Applications to the Hospital Secretary, Hull Royal Infirmary. (7485)

HULL (A) GROUP HOSPITAL MANAGEMENT COMMITTEE

Hull Royal Infirmary

Applications are invited for the post of
HOUSE SURGEON
(Vacant January.) Recognized for F.R.C.S. National salary scale and conditions. Six-monthly appointment, terminable by one month's notice either side. Applications to the Hospital Secretary. (6918)

PONTEFRACT AND CASTLEFORD HOSPITAL MANAGEMENT COMMITTEE

Pontefract General Infirmary

HOUSE SURGEON
required. This is an approved pre-registration post under Medical Act, 1950, but applications will be considered from fully registered practitioners. Hospital approved under F.R.C.S Regulations and provides excellent surgical experience. Apply to the Secretary, Great Northern House, Salter Row, Pontefract, as soon as possible. (7256)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

Established 1885

THE Medical Defence Union

EUSton 4244

MEMBERSHIP EXCEEDS 43,750

Subscription: £1 each year for first three years for newly qualified entrants, £2 for members of more than three years' standing

(No entrance fee payable by candidates for election within one year of registration with the General Medical Council or the Dental Board.)

Full particulars from the Secretary (Dr. ROBERT FORBES), The Medical Defence Union, Ltd., Tavistock House South, Tavistock Square, London, W.C.1

Surgery—contd.

ROYAL CORNWALL INFIRMARY, Truro (212 beds)

Applications are invited from pre- or post-registration candidates for the post of

HOUSE SURGEON

General Surgery, which fell vacant on January 1, 1957. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to be addressed to the Hospital Secretary, Royal Cornwall Infirmary, Truro. (7091)

ROYAL SOUTH HANTS HOSPITAL (278 beds)

RESIDENT HOUSE SURGEON

required beginning February. Pre-registration candidates eligible. Applications, with copies of recent testimonials, should be forwarded to Group Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7513)

ROYAL VICTORIA HOSPITAL, Dover

Applications are invited for the pre-registration appointment of

HOUSE SURGEON

at the Royal Victoria Hospital, Dover. Salary £425, £475 or £525 a year, according to experience, less £125 a year for residential emoluments. Applications, giving details of age, qualifications and experience, together with the names and addresses of two referees, should be made to the Group Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7494)

ROYAL VICTORIA HOSPITAL, Folkestone

Applications are invited for the appointment of

HOUSE SURGEON

at the above hospital, which is recognized for pre-registration service and also by the Royal College of Surgeons for the F.R.C.S. examination. Salary £425, £475 or £525 a year, according to experience, less £125 a year for residential emoluments. Applications, stating qualifications, experience, and the names and addresses of two referees, to the Group Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7493)

VICTORIA CENTRAL HOSPITAL (135 beds)

Applications are invited for the following resident appointments, which fall vacant on March 1, 1957, and will be for a period of six months. These posts are approved as pre-registration posts:

TWO HOUSE SURGEONS

Salary £425/£525 per annum according to experience, less £125 per annum for board, lodging, etc. Terms and conditions of service in accordance with the regulations of the Ministry of Health. Applications, giving details of age, nationality, qualifications and experience, together with the names of three persons for reference, to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey, Cheshire. (7238)

VICTORIA HOSPITAL, Romford, Essex (99 beds)

RESIDENT HOUSE SURGEON (Male)

required from January 17, 1957. (Post not approved for pre-registration purposes.) Applications should be forwarded immediately to the Secretary, Romford Group H.M.C., Oldchurch Hospital, Romford. (6766)

WILLESBOROUGH HOSPITAL near Ashford, Kent

Applications are invited for the appointment of

HOUSE SURGEON

at the above hospital, which is recognized for pre-registration service. Salary £425, £475 or £525 a year, according to experience, less £125 a year for residential emoluments. Applications, stating qualifications, experience, and the names and addresses of two referees, should be made to the Group Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7495)

DULWICH HOSPITAL East Dulwich Grove, S.E.22

Applications invited for appointment as

HOUSE SURGEON (General Surgical duties)

There is an association with King's College Hospital Medical School for teaching purposes. Recognized for pre-registration purposes. Apply, giving age, qualifications, and previous posts (if any), with copy testimonials or names of two referees, to Group Secretary, Camberwell H.M.C., Dulwich Hospital, not later than January 16. (Pr.7334)

WHIPPS CROSS HOSPITAL, London, E.11

Applications are invited for the following post, which became vacant January 1, 1957:

PRE-REGISTRATION HOUSE SURGEON—General Surgery

Application forms from the Hospital Secretary, to be returned by January 14, 1957. (Pr.7530)

BARNSTAPLE, NORTH DEVON INFIRMARY (105 beds)

HOUSE SURGEON (Pre-registration)

Post vacant early January. Applications to Group Secretary, North Devon H.M.C., 19, Alexandra Road, Barnstaple. (Pr.5887)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Royal Infirmary, Blackburn

HOUSE SURGEON

required on February 1, 1957. Post recognized for F.R.C.S. and approved for pre-registration purposes. Apply to Group Secretary, H.M.C. Office, Royal Infirmary, Blackburn. (Pr.7123)

BOARD OF MANAGEMENT FOR INVERNESS HOSPITALS

HOUSE OFFICERS (General Surgery)

required from February 1, 1957: (a) Raigmore Hospital (408 beds), one post. (b) Royal Northern Infirmary (222 beds), two posts. Pre-registration posts. Applications, giving names of two referees, to Group Medical Superintendent, Royal Northern Infirmary, Inverness, by January 10, 1957. (Pr.7231)

BOARD OF MANAGEMENT FOR THE ORKNEY HOSPITALS

Balfour Hospital

RESIDENT HOUSE OFFICER (Surgical) (Pre-registration)

required for above hospital of 44 surgical beds. Post vacant February 1, 1957. In addition to the recognized salary, a sum of £50 a year will be paid. Applications, stating age, qualifications and experience, along with references, should be addressed to the Group Secretary and Treasurer, Balfour Hospital, Kirkwall. (Pr.7455)

BROMSGROVE GENERAL HOSPITAL, Worcs. (423 beds)

Applications are invited for the pre-registration post of

HOUSE SURGEON

at the above hospital. Post vacant early February. Application, with the names of three referees, to the Hospital Secretary. (Pr.7259)

CENTRAL WIRRAL GROUP

Clatterbridge Hospital, Bebington, Cheshire (819 beds)

HOUSE OFFICERS

for pre-registration posts, six months commencing March 1, 1957. General Surgery, four posts. Salary according to previous posts held. Application forms, obtainable from Hospital Secretary, to be returned as soon as possible. (Pr.7175)

XIII CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Chester Royal Infirmary

Applications are invited for the post of

HOUSE SURGEON (General)

vacant February 11, 1957. Recognized for F.R.C.S. and pre-registration service. Applications, giving full details, together with the names and addresses of two referees, should be forwarded to the Hospital Secretary. (Pr.7520)

DUDLEY, STOURBRIDGE AND DISTRICT HOSPITAL GROUP

The Guest Hospital, Dudley (154 beds)

HOUSE OFFICER, SURGICAL (Pre-registration)

Post vacant January, 1957. Apply Group Secretary, The Guest Hospital, Dudley, Worcs. (Pr.5786)

EAST CUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

Cumberland Infirmary, Carlisle (330 beds)

Applications are invited for the posts of

TWO HOUSE OFFICERS (General Surgery)

(recognized for F.R.C.S. examination) for six months' period commencing February 1, 1957. The posts are recognized for pre-registration purposes. Applications, stating age and giving details of education, training and experience, together with the names of two referees, should be sent to the Group Secretary, Cumberland Infirmary, Carlisle. (Pr.7336)

ENFIELD GROUP HOSPITAL MANAGEMENT COMMITTEE

Chase Farm Hospital, Enfield, Middlesex

RESIDENT HOUSE SURGEON

(Approved pre-registration), first or second post. Vacant February 2, 1957. Duties with a general surgical unit. Post recognized by the Royal College of Surgeons. Six months' appointment. Applications, with names and addresses of two referees, to the Group Secretary at Chase Farm Hospital, The Ridgeway, Enfield. (Pr.7519)

EPSOM DISTRICT HOSPITAL Dorking Road, Epsom, Surrey

RESIDENT HOUSE SURGEON

required February 5. Pre-registration post. Recognized for F.R.C.S. Applications, stating age, qualifications and experience, with copies of two recent testimonials, should be sent as soon as possible to Group Secretary at above address. (Pr.7249)

GRIMSBY HOSPITAL MANAGEMENT COMMITTEE

County Hospital, Louth, Lincs (215 beds)

HOUSE OFFICER—SURGICAL

Applications are invited for this pre-registration post, which falls vacant January 5 next. Applications, giving full details, together with the names of two referees, should be addressed to the Hospital Secretary. (Pr.7095)

HAREFIELD HOSPITAL, Harefield, Middlesex

Applications are invited for the pre-registration post of

HOUSE SURGEON

Vacant immediately. Applications, with copies of two testimonials, to the Medical Director of the hospital. (Pr.7456)

HUDDERSFIELD HOSPITAL MANAGEMENT COMMITTEE

Huddersfield Royal Infirmary (312 beds)

HOUSE SURGEON

required, to commence duties on January 23, 1957. The post is recognized as a pre-registration appointment and for the F.R.C.S. Salary in accordance with National scales. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield. (Pr.7191)

HULL "A" GROUP HOSPITAL MANAGEMENT COMMITTEE

Kingston General Hospital, Hull (419 beds)

HOUSE SURGEON (Pre-registration post)

Resident, and tenable for 6 months. This post includes Gynaecology, E.N.T. and General Surgery. Vacant early February. Applications, with two recent testimonials, to the Hospital Secretary. (Pr.7125)

IPSWICH AND EAST SUFFOLK HOSPITAL Anglesea Road Wing (356 beds)

Applications are invited for the post of

HOUSE SURGEON

to two Consultant General Surgeons. The post is recognized for pre-registration and for the F.R.C.S. examination. Applications, with copies of recent testimonials, to Hospital Secretary. (Pr.7250)

IPSWICH AND EAST SUFFOLK HOSPITAL Anglesea Road Wing (356 beds)

Applications are invited for the post of

HOUSE SURGEON

to Consultant General Surgeon. The post, which is vacant in early January, is recognized for pre-registration and for the F.R.C.S. examinations. Applications, with copies of recent testimonials, to Hospital Secretary. (Pr.7090)

IPSWICH AND EAST SUFFOLK HOSPITAL Heath Road Wing, Ipswich (274 beds)

Applications invited for the post of

HOUSE SURGEON (Pre-registration)

to General Surgeons. The post, vacant shortly, is recognized for the R.C.S. examinations. Applications, with full details and copies of recent testimonials, to the Hospital Secretary. (Pr.7126)

KENT AND SUSSEX HOSPITAL Tunbridge Wells (303 beds)

PRE-REGISTRATION HOUSE SURGEON (male or female)

required. General Surgery and Gynaecology. Vacant February 3. Apply, giving age, qualifications, experience, and copies of two recent testimonials, to Hospital Secretary. (Pr.6985)

Surgery—contd.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (112 beds)

Applications are invited for the pre-registration post of

HOUSE SURGEON

at the above hospital. Post vacant shortly. Applications, with the names of three referees, to the Hospital Secretary. (Pr.7277)

LINCOLN COUNTY HOSPITAL (200 beds)

Applications are invited for the pre-registration post of

HOUSE SURGEON

The post is tenable for a period of six months from February 1, 1957, and can be followed by a pre-registration post of House Physician if desired. Applications, giving full particulars, should be addressed to R. W. Howick, Group Secretary. (Pr.6879)

MAELOR GENERAL HOSPITAL, Wrexham (591 beds)

Applications are invited for the post of

HOUSE SURGEON

at the above hospital, to commence duties on February 1, 1957. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.) and is a pre-registration post. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be sent to the Group Secretary, Maelor General Hospital, Wrexham, as soon as possible. (Pr.7333)

NEWPORT AND EAST MONMOUTHSHIRE GROUP

PRE-REGISTRATION HOUSE SURGEONS POSTS

are vacant on February 1, 1957, or a little earlier: Royal Gwent Hospital, Newport (260 beds, 10 residents). Three posts, all recognized F.R.C.S. St. Woolos Hospital, Newport (379 beds). One post. Recognized for F.R.C.S. Pontypool and District Hospital, Pontypool (126 beds, 4 residents). Two posts. Both recognized F.R.C.S. Write, quoting two referees and post preferred, to T. A. Jones, Group Secretary, 64, Cardiff Road, Newport, Mon. (Pr.6592)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL GENERAL HOSPITAL GROUP

South Devon and East Cornwall Hospital, Freedom Fields, Plymouth

HOUSE SURGEON

pre-registration post, vacant immediately. Recognized for the F.R.C.S.—Deputy Group Secretary, 7, Nelson Gardens, Stoke, Plymouth. (Pr.7466)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE

Saint Mary's Hospital (130 Surgical beds)

HOUSE SURGEON (Pre-registration)

Vacant January 23, 1957, vacant January 23, 1957, vacant January 31, 1957, vacant February 1, 1957. Applications, stating age, experience and qualifications, together with the names of two referees, should be forwarded as soon as possible to E. H. Hurst, St. Mary's Hospital, Milton Road, Portsmouth. (Pr.7251)

ROYAL INFIRMARY, Sunderland

HOUSE SURGEON

required. Post vacant January, 1957, is recognized for pre-registration experience. Apply, naming two referees, to the Hospital Secretary, Royal Infirmary, Sunderland. (Pr.7388)

ROYAL SUSSEX COUNTY HOSPITAL (312 beds)

HOUSE SURGEON (including Gynaecology)

required beginning of February. Pre-registration and recognized for F.R.C.S. Applications, stating usual particulars, and naming two referees, to the Administrative Officer, Royal Sussex County Hospital, Brighton, 7. (Pr.7457)

RUSH GREEN HOSPITAL, Romford, Essex (301 beds)

RESIDENT HOUSE OFFICER (General Surgery)

required from January 25, 1957. Post is recognized for pre-registration purposes and for F.R.C.S. Applications should be forwarded immediately to Medical Superintendent, stating also names of two referees. (Pr.6865)

ST. HELIER HOSPITAL, Carshalton, Surrey

HOUSE SURGEON
(approved for Pre-Registration Service)

Applications, stating age, qualifications, and experience, with copies of recent testimonials and the names of two referees, should be sent to the Secretary at above address. (Pr.7289)

ST. MARY'S HOSPITAL, Eastbourne

HOUSE SURGEON

Pre-registration post vacant December 30. Apply, with details and two references, to Group Secretary, 29, Bedfordwell Road, Eastbourne. (Pr.7335)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

HOUSE SURGEON

Pre-registration appointments. Preston Hospital, one; Tynemouth Infirmary, one. Applications, with names of two referees, to Group Secretary, Preston Hospital, North Shields. (Pr.7252)

STAFFORDSHIRE GENERAL INFIRMARY Stafford (175 beds—Recovery Unit 32 beds)

HOUSE SURGEON

Pre-registration post. Vacant December 26. At end of term of service the successful applicant will be considered for appointment to a pre-registration post of House Physician if he or she has not held such an appointment. Applications to Group Secretary, Stafford H.M.C., 13, Foregate Street, Stafford. (Pr.6051)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

North Ormesby Hospital, Middlesbrough

Applications are invited for the appointment of

HOUSE OFFICER (Surgery)

at the above-named hospital. The appointment, which is recognized for the F.R.C.S. examination and pre-registration service under the Medical Act, 1950, will become vacant early in the New Year. Applications, stating full details, and giving two names for reference, should be addressed to the Hospital Secretary. (Pr.6820)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

Stockton and Thornaby Hospital, Stockton-on-Tees

Applications are invited for the appointment of

HOUSE OFFICER (Surgical)

at the above hospital. The appointment, which falls vacant early in January, 1957, is recognized for pre-registration service under the Medical Act, 1950. Applications, stating full details and giving two names for reference, should be addressed to the Hospital Secretary. (Pr.6590)

THE ROCHDALE GROUP OF HOSPITALS

Applications invited from newly qualified medical practitioners for

ONE YEAR ROTATING PRE-REGISTRATION POSTS

The first six months will be spent as house surgeons in the Rochdale Infirmary (two months casualty, four months general surgery) and the second six months as house physicians or obstetric and gynaecological house surgeons. Immediate application to Group Secretary, Central Offices, Birch Hill Hospital, Rochdale. (Pr.7523)

THE ROYAL HOSPITAL, Wolverhampton (An Associated Hospital of the Birmingham University Medical School)

PRE-REGISTRATION HOUSE OFFICERS

Vacancies in Surgery occur shortly. Applications, with copies of testimonials, to Secretary. (Pr.7413)

TORBAY HOSPITAL, Torquay (166 General beds)

RESIDENT HOUSE OFFICER (Surgical)

male or female, required approximately middle of January, 1957. Post recognized for F.R.C.S. and pre-registration purposes. There is a complement of six Resident House Officers. Applications, stating qualifications, nationality, and age, together with copy testimonials (quoting reference F.955/74), to the Group Secretary, Torquay District Hospital Management Committee, Torbay Hospital, Torquay, S. Devon. (Pr.6244)

VALE OF LEVEN HOSPITAL, Alexandria, Dunbartonshire (155 beds)

The undernoted vacancy for a House Officer exists for the six months' period commencing February 1, 1957:

SURGERY AND GYNAECOLOGY
(Pre-registration Post)

Applications to be submitted to the Medical Superintendent at the hospital. (Pr.7537)

WAR MEMORIAL HOSPITAL, Wrexham (230 beds)

Applications are invited for the post of

HOUSE SURGEON

at the above hospital, to commence duties on February 1, 1957. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.) and is a pre-registration post. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be sent to the Group Secretary, Maelor General Hospital, Wrexham, as soon as possible. (Pr.7332)

WARNEFORD GENERAL HOSPITAL Leamington Spa (197 beds)

RESIDENT HOUSE SURGEON
(General Surgery)

Post vacant January 8, 1957. Recognized for pre-registration and F.R.C.S. Post provides excellent experience. Good accommodation available. Application, with two recent testimonials, to Hospital Secretary. (Pr.7258)

WEST BROMWICH AND DISTRICT HOSPITALS GROUP

Hallam Hospital, West Bromwich (450 beds)

HOUSE SURGEON

Vacant immediately. Pre-registration. Applications, with three recent testimonials, to the Medical Secretary at the above address. (Pr.7539)

WEST HERTS HOSPITAL Hemel Hempstead, Herts

HOUSE SURGEON (Pre-registration)

required. Applications, giving full details and two names for reference, should be sent to the Hospital Secretary as soon as possible. (Pr.6648)

THORACIC SURGERY

SHEFFIELD REGIONAL HOSPITAL BOARD

City General Hospital, Sheffield (652 beds) Recognized for Final Fellowship Examination

WHOLE-TIME RESIDENT REGISTRAR
(Thoracic Surgery)

required. Appointment for one year in first instance. General hospital with Regional Department of Cardiology. Thoracic Surgical Unit deals with T.B. and non-T.B. cases. Previous thoracic surgical experience desirable. Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, by January 14, 1957, giving age, nationality, qualifications, present and previous appointments (with dates), naming three referees. (7341)

BOARD OF MANAGEMENT FOR THE ABERDEEN GENERAL HOSPITALS

Woodend General Hospital

Applications are invited for the appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

in the Thoracic Surgery Department of the above hospital. The post, which is non-resident, becomes vacant on March 1, 1957. The appointment is subject to the conditions of service issued by the Department of Health for Scotland. Applications, giving details of qualifications and experience, and the names of two referees, should be lodged with the Secretary, Aberdeen General Hospitals, P.O. Box 92, 62, Queen's Road, Aberdeen, within 14 days of the appearance of this advertisement. (7421)

HULL (B.) H.M.C.
Castle Hill Hospital, Cottingham (near Hull)

JUNIOR HOSPITAL MEDICAL OFFICER

(resident) to work in Major Thoracic Surgery Unit. Accommodation available for single person only at present. The Unit has 50 beds for all types of thoracic surgery, including tuberculosis and non-tuberculosis, oesophageal and cardiac. Application forms from Group Secretary, De la Pole Hospital, Willerby, East Yorkshire. (7128)

KING EDWARD VII MEMORIAL CHEST HOSPITAL, Hertford Hill, near Warwick

JUNIOR HOSPITAL MEDICAL OFFICER

(resident). Applications are invited for this appointment in a modern Thoracic Surgical Unit. All forms of major and minor thoracic surgery undertaken. Post offers wide general training in non-tuberculosis and tuberculosis surgery. Facilities available for postgraduate study. Previous experience in specialty is not essential. Applications to Group Secretary, 50, Holly Walk, Leamington Spa. (7305)

LONDON CHEST HOSPITAL

Hospitals for Diseases of the Chest

A vacancy occurs March 1, 1957, for

RESIDENT SURGICAL OFFICER

Appointment for six months, with prospect of renewal. Post graded as Senior House Officer or Registrar, according to qualifications and previous surgical experience. Applications, stating date of birth, qualifications (with dates), and previous appointments held, with copies of three testimonials, should reach the undersigned not later than January 18.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7185)

Thoracic Surgery—(contd.)

SOUTH-EAST REGIONAL THORACIC SURGERY UNIT (50 beds), Brook General Hospital, Shooters Hill Road, S.E.18

SENIOR HOUSE OFFICER

Vacant mid-January. Recognized for F.R.C.S. Six months' appointment, and may then be renewed for a further period. The Unit treats all types of Chest Diseases and offers opportunity for comprehensive training in Thoracic Surgery. Apply to Group Secretary, Memorial Hospital, Woolwich, S.E.18. (7139)

BRISTOL AND COSSHAM/FRENCHAY HOSPITAL MANAGEMENT COMMITTEE

TWO SENIOR HOUSE OFFICERS

required in the Thoracic Surgery Department, which is the Regional Thoracic Surgery Centre (120 beds) for the South-West. Applications, with full particulars, should be addressed to the Group Secretary, Frenchay Hospital, Bristol, quoting "Thoracic." (6369)

MIDDLETON HOSPITAL, Ilkley (430 beds)

RESIDENT SENIOR HOUSE OFFICER (Surgical) required for Major Thoracic Surgical Unit at the above hospital. Applications, stating age, nationality, qualifications and experience, to Hospital Secretary. (7000A)

UROLOGY

ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS

RESIDENT SURGICAL OFFICER
(Senior Registrar Grade)

required for St. Peter's Hospital on April 1, 1957. Applications invited from male candidates on the British *Register* who have completed their training in general surgery. Appointment for six months, with opportunity for a further six months if recommended. Candidates should be prepared to spend one year at the hospital if required. Applications (12 copies), and the names of three referees, should reach the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by January 31, 1957. (7395)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 35

PUBLIC HEALTH

AMENDMENT

MIDDLESEX COUNTY COUNCIL

ASSISTANT MEDICAL OFFICER (Whole-time)

The salary for the above post, advertised in December 29 issue, should read £1,050 rising to £1,475 per annum. (7216)

COUNTY BOROUGH OF MERTHYR TYDFIL

Applications are invited from male registered medical practitioners for the post of

SENIOR ASSISTANT MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applicants must possess the Diploma in Public Health and have had previous experience in School Health, Maternity and Child Welfare, and general Public Health work. The person appointed will be responsible, under the direction of the Medical Officer of Health, for carrying out administrative and other duties in all sections of the work of the Health Department, and must be capable of assuming full responsibility for the Department when necessary. The appointment is whole-time, and the successful candidate will not be allowed to engage in private practice. The appointment will be terminable at any time on three months' notice in writing, on either side. The successful candidate will be required to pass a medical examination for Superannuation purposes. Salary: £1,475 by four annual increments of £55 to £1,695 (commencing salary to be determined by experience at the discretion of the Local Authority). There is no Deputy Medical Officer of Health on the staff. Forms of application and further information may be obtained from the undersigned and must be returned, giving names of three referees, by Saturday, January 12, 1957.—(Signed) T. H. Stephens, Medical Officer of Health and Principal School Medical Officer, Department of Public Health, Town Hall, Merthyr Tydfil, Glam. (7010)

GLAMORGAN COUNTY COUNCIL

Applications are invited from medical practitioners with refraction experience for appointment as

WHOLE-TIME ASSISTANT MEDICAL OFFICER

in the Neath and District Health Division. Salary scale £1,050 by £50 to £1,200 then by £55 to £1,475 per annum. Application forms and further particulars from County Medical Officer, County Hall, Cardiff.—Richard John, Clerk of the County Council. (7497)

COUNTY COUNCIL OF THE COUNTY OF WEST LOTHIAN

ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited for the above appointment from registered medical practitioners holding the D.P.H.; preference will be given to candidates who have held a house appointment in a maternity hospital. Every opportunity will be given to the successful applicant to obtain experience in all aspects of local health authority work. Salary scale £1,050 to £1,475 by annual increments of £50, with placing according to experience. The post is superannuable. Possession of a car, for which an allowance will be provided, is essential. Applications, giving full details of age, qualifications and experience, together with the names of three referees, to be lodged with the undersigned not later than January 10, 1957.—John Calder, County Clerk, County Buildings, Linlithgow. (7480)

COUNTY OF LINCOLN—PARTS OF HOLLAND

APPOINTMENT OF DISTRICT MEDICAL OFFICER OF HEALTH AND ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited from persons qualified in accordance with the Sanitary Officers (Outside London) Regulations, 1935 and 1951, for the full-time joint appointment of: (a) Medical Officer of Health for the Rural District of East Elloe, (b) Medical Officer of Health for the Rural District of Spalding, (c) Medical Officer of Health for the Urban District of Spalding, (d) Assistant County Medical Officer of Health. The salary will be determined at the time of the appointment according to qualifications and experience on a scale to commence between £1,696 2s. 8d. and £1,852 10s. per annum, rising to not less than £2,001 0s. 4d. A travelling allowance will be paid on the approved scale. Application forms, with particulars of the appointment, may be obtained from the County Medical Officer of Health, County Hall, Boston, to whom they should be returned by January 14, 1957.—H. A. H. Walter, Clerk of the County Council. (7159)

NORTH RIDING

Applications are invited for appointment as **SCHOOL MEDICAL OFFICER (men or women).** The possession of a D.P.H. or D.C.H. will be an advantage. Salary in accordance with Whitley Council Scale of £1,050 by £50 to £1,200 by £55 to £1,475 per annum. Previous experience will be taken into consideration, and car and subsistence allowance will be paid according to the County Scale. Appointment is subject to the appropriate superannuation Act and to the passing of a medical examination. For form of application apply to F. Barraclough, County Hall, Northallerton. (7498)

SURREY COUNTY COUNCIL

APPOINTMENT OF ASSISTANT MEDICAL OFFICER

Applications are invited from candidates possessing the D.P.H. or D.C.H. Main duties will be in connection with the school health and maternity and child welfare services. Salary according to experience on the scale of £1,050 by £50 to £1,200 by £55 to £1,475 per annum. The appointment is subject to satisfactory medical examination, to the provisions of the Local Government Superannuation Acts, 1937 and 1953, and to three months' notice on either side. Application form from the County Medical Officer, County Hall, Kingston-upon-Thames, to be returned by January 19, 1957. (7253)

ADMINISTRATIVE

WESTERN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointment:

GROUP MEDICAL SUPERINTENDENT

for the hospitals administered by the Board of Management for Glasgow Royal Infirmary and Associated Hospitals. Salary on the scale £1,950 by £100 (3) to £2,250. Applications (16 copies), stating date of birth, qualifications, experience, present appointment, and the names of three referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, not later than 30 days after the publication of this advertisement. This appointment is subject to the National Health Service (Scotland) (Superannuation) Regulations. (7535)

SERVICES

THE MEDICAL SERVICE OF THE ROYAL NAVY

VACANCIES FOR MEDICAL OFFICERS

Candidates are invited for Short Service Commissions of three years, on termination of which a gratuity of £600 (tax free) is payable. Ample opportunity is granted for transfer to Permanent Commissions on completion of one year's total service. Officers so transferred are paid instead a grant of £1,500 (taxable). All entrants are required to be British subjects whose parents are British subjects, medically qualified, physically fit, and to pass an interview. Full particulars from: The Admiralty Medical Department, Queen Anne's Mansions, St. James's Park, London, S.W.1.

INDUSTRIAL APPOINTMENTS

Attention is drawn to the B.M.A. scale of remuneration for Industrial Medical Officers, which is available on request from the Secretary.

THE NATIONAL COAL BOARD
(South-Western Division)

Applications invited for the post of

AREA MEDICAL OFFICER

in their No. 4 (Aberdare) Area. Applicants must be registered medical practitioners and have had a good clinical background. Previous experience in general practice and industry and a knowledge of the coal industry would be advantageous. The successful applicant will be responsible for the supervision of industrial health services in the Area, including the examination of new entrants and will be required to live in or near the Area. Salary range £1,400 to £2,150 per annum. (7411)

REPUBLIC OF IRELAND

DR. STEEVENS' HOSPITAL, Dublin

PATHOLOGIST (part-time)

Applications are invited for this post, which would entail morning attendance at the hospital laboratory six days a week. Minimum salary under the Health Act £800. Private practice allowed. Further particulars supplied on request to the undersigned, to whom applications should be sent before January 31, 1957.—William Kennedy, Secretary. (7347)

LIMERICK COUNTY COUNCIL

ASSISTANT REGIONAL ORTHOPAEDIC SURGEON

Applications are invited for the above temporary post. Salary £1,288 10s. per annum with limited private practice and travelling expenses. Further particulars may be obtained from Orthopaedic Surgeon, Regional Orthopaedic Hospital, Croom, Limerick, Ireland. Applications to be addressed to the undersigned, giving full particulars of experience, not later than January 12, 1957.—D. F. Donovan, County Secretary, County Council Offices, 82/3, O'Connell Street, Limerick. (7348)

ROYAL VICTORIA EYE AND EAR HOSPITAL
Adelaide Road, Dublin
Ear, Nose and Throat Department

A vacancy for a

HOUSE SURGEON

(Ear, Nose and Throat Department) will occur on February 1, 1957. Salary £275. Hospital recognized for the D.L.O. examination and provides experience in all branches of E.N.T. work. Applications to be sent to the Registrar at the above hospital immediately. (7458)

ST. MICHAEL'S HOSPITAL, DUN LAOGHAIRE, CO. DUBLIN

Applications to the Secretary, Medical Board, are invited not later than January 15, 1957, for the post of

SURGICAL REGISTRAR

Salary £600 with board-residence and emoluments.

UNIVERSITY OF DUBLIN
Trinity College

Applications are invited for the post of

LECTURER IN BACTERIOLOGY
(with Medical Qualifications)

to begin duties on March 1, 1957, or as soon as possible thereafter. The salary will be in the range of £750 to £1,050 per annum. Further details may be obtained from the Registrar, Trinity College, Dublin, who will receive applications until January 31, 1957. (7349)

UNIVERSITY COLLEGE, DUBLIN
Department of Physiology

Applications are invited for the position of

ASSISTANT in our Physiology Department

Applicants should be registered medical practitioners or should be science graduates with a scientific training in Physiology. The salary will be at a point on the scale £750 by £50 to £1,200, in accordance with the experience and qualifications of the successful applicant. Applications, giving details of degrees, qualifications and experience, should be addressed to the undersigned not later than January 31, 1957. Names of two persons who may be contacted for reference should be given.—Signed, J. P. MacHale, Secretary and Bursar. (7545)

OVERSEA (Vacant)

AUSTRALIA (BRISBANE). OPENING AVAILable with Pathology/Transfusion practice. Experience not essential. £1,500/£2,000, plus private fees.—Box 3253, B.M.J.

DIRECTOR OF PRIVATE CANADIAN CLINIC (Southern Ontario) will be in London in February to interview specialists in internal medicine who are available to come to Canada to write Canadian Council examinations in May, 1957. In reply, state age, degrees, training, and references.—Box 3371, B.M.J.

ASSOCIATE, LEASE OR CEDE TO A DOCTOR of any nationality who is entitled to exercise Medicine in Italy, a Sanitary Centre in Genoa, with many English clients.—Box 3368, B.M.J.

GOLD COAST. EUROPEAN M.O. REQUIRED for Mining Company. Emoluments worth approximately £200 per month plus quarters, etc. Full details from Medical Practices Advisory Bureau, B.M.A., Tavistock Square, W.C.1. (Agents.)

JUNIOR MEDICAL OFFICER

A vacancy exists for a Junior Medical Officer at Havelock Mine, Swaziland. The commencing salary is £1,240 per annum, plus a free house furnished for a single man, and the two Mine Medical Officers are provided with a free car for use on official duty. The mine is situated approximately 250 miles from Johannesburg, and has a healthy temperate climate. The successful applicant will be responsible for his fare to the mine. Applications should be addressed to the Principal Medical Officer, Shabanie Mine, Shabani. Will applicants please state the earliest date they are able to commence duties. (7059)

APPROVED RESIDENCY IN MEDICINE IN new research hospital for cancer. Excellent facilities for clinical training. Active investigative programme in haematology, metabolism, cancer chemotherapy. Affiliation with medical school. Salary $3,600 to $4,100. Write Chairman, Medical Residency Committee, Roswell Park Memorial Institute, Buffalo, New York. (7352)

CATHOLIC MISSION HOSPITALS. VACANcies in East and West Africa and India.—Apply Secretary, Damien Society, 47, Fitzwilliam Square, Dublin. (7130)

CANADA. BRITISH GRADUATES REQUIRED as Junior Internes from June, 1957. Salary $100 per month, with full board and lodging. Also, Resident in Medicine. Salary $225. Apply Executive Director, Reddy Memorial Hospital, Tupper Street, Westmount, Montreal. (7351)

DEPARTMENT OF MICROBIOLOGY

Applications are invited from suitably qualified candidates (M.D. or Ph.D.) with experience in animal virology for the post of **Associate Professor.** The main responsibility of the position will be the development of a course of systematic and laboratory instruction in animal virology suitable for graduates in medicine and science attending diploma courses in the school. Excellent opportunities for research and for co-operation with hospitals and health departments. Duties to commence July 1, 1957, salary $7,000 per annum, with usual life insurance and pension benefits. Further particulars may be obtained from Dr. A. J. Rhodes, Director, School of Hygiene, University of Toronto, Toronto 5, Ontario. (7353)

ELMHURST GENERAL HOSPITAL
Elmhurst, New York, U.S.A.
(960-bed general municipal hospital, formerly New York City Hospital)

Approved by the Joint Commission on Accreditation of Hospitals. Also approved by the American College of Surgeons and American Medical Association for Internship and Residency training. Only graduates from approved university schools accepted. Several openings in rotating and straight internships and a few first and second year residencies are available for the term commencing July 1, 1957. Stipend for interns is $855.00 per year, plus complete maintenance. (7397)

NEW ROCHELLE HOSPITAL, New Rochelle, New York, U.S.A.
(360-bed general community hospital)

Approved by the Joint Commission on Accreditation of Hospitals. Also approved by the American College of Surgeons and American Medical Association for Internship and Residency training. Only graduates of approved university schools accepted. Internships available for the one-year term commencing July 1, 1957. Stipend is $200.00 per month plus complete maintenance. Passage back to England paid by hospital after completion of 12-month internship. (6087)

OPPORTUNITY FOR RESIDENCY TRAINING for a limited number of Physicians starting January, 1957, or July, 1957. Accredited for two years' training. Salary range $400-$450-$500 a month. For further information contact Jack A. Wolford, M.D., Superintendent, Hastings State Hospital, Ingleside, Nebraska.

GOVERNMENT OF WESTERN NIGERIA

MALE MEDICAL OFFICERS

required for general medical work including minor and emergency surgery in small country hospitals and general health work including the supervision of rural schools, maternity and child welfare clinics. Appointment may be made: (a) from the National Health Service, candidates retaining superannuation rights up to six years. Salary scale £1,086 to £1,950 a year. A gratuity (taxable) of 20% of aggregate salary is payable on completion of appointment; or (b) on short-term contract (two tours each of 18-24 months' duration). Salary scale £1,170 to £2,118 a year. A gratuity (taxable) at the rate of £37 10s. for each completed period of three months' service (including leave) payable on satisfactory completion of appointment. In addition, officers receive supplementary pay of £120 a year. Quarters provided at low rental. Taxes at local rates. Annual leave permissible; generous home leave granted after each tour of 18-24 months. Free return passages for officer, wife and children (up to three). Application forms from Director of Recruitment, Colonial Office, London, S.W.1, quoting BCD 117/410/018. (7558)

HER MAJESTY'S OVERSEA SERVICE
Kenya

MEDICAL OFFICERS

with qualifications registrable in United Kingdom required for general duties.

Successful candidates may be posted to any station in Kenya. During earlier years of service an officer will be expected to carry out general medical and surgical duties, including varying amount of public health administration. In most stations, even if remote from larger towns, it is possible to maintain interest in any particular branch of medicine or surgery to which the officer is attracted.

The work of every medical officer is based on a hospital which may vary in size and facilities from small district hospital, meeting needs of comparatively primitive community, to large and modern provincial hospital.

Appointments can be made on permanent basis with pension (non-contributory), or on short-term contract with gratuity (taxable) payable on satisfactory completion of service. Normal retiring age is 55. Salary ranges from £1,284 to £2,115 a year, starting point determined by experience. Four extra increments given to successful candidates possessing the F.R.C.S., M.R.C.P., D.P.H., or other approved higher qualifications.

Permanent Medical Officers are eligible to be considered at any time for promotion to super-scale posts in Kenya and other territories in medical administration or, if they possess higher qualification and suitable experience, in specialist posts.

Quarters at rental varying from £30 to £78 a year according to size and type, and furniture at rate varying from £15 to £36 a year. Free passages in both directions for officer and wife and up to cost of one adult fare for children. Taxation at local rates. Annual local leave permissible and generous home leave granted after each tour of from 24 to 45 months. Educational facilities available.

Application forms from Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1 (quoting BCD 117/7/02). (5217)

PHYSICAL MEDICINE SPECIALIST
required by
WESTERN REHABILITATION CENTRE
900, West 27th Avenue,
VANCOUVER 9, B.C., CANADA

This is a large, modern, well-established, multiple disability, in-patient and out-patient Centre. Permanent position. Starting salary $8,000 to $10,000 per year, plus pension plan and other benefits. Apply to A. C. Pinkerton, M.B., Ch.B., D.Phys.Med., Medical Director, giving full personal and professional particulars. An illustrated brochure can be obtained from the Advertising Director, British Medical Journal, B.M.A. House, Tavistock Square, London, W.C.1, England, or from the above. (7459)

PRINCESS TSAHAI MEMORIAL HOSPITAL, Addis Ababa. Vacancy exists for a **Surgeon,** salary free of income tax Eth.$1,500 per month (£2,568 sterling per annum) or Eth.$2,000 per month (£3,452 sterling per annum) for exceptional qualifications and experience. Three-year contract, renewable at end of three years. Free return passages for applicant and wife. Cumulative leave of one month a year. Apply Chairman of the Council, 18, Egerton Terrace, London, S.W.3.

Information about conditions of medical practice in Ethiopia should be obtained from the Secretary of the British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1. (7460)

RADIOLOGY RESIDENT WANTED. 400-BED general hospital. Approved three-year programme, but will accept for one or two years. Start July, 1957. Resident salary $2,340 annually, with full residential emoluments. Training includes diagnostic and therapeutic radiology, also radioisotope work, pathology, and active cancer clinic. Supervision two full-time diplomat radiologists. Contact Registrar, Medical Education, the Jewish Hospital, Cincinnati 29, Ohio, U.S.A. (7223)

ROTHSCHILD HADASSAH UNIVERSITY HOSPITAL, Jerusalem, Israel

Applications are invited from physicians of suitable academic status for the post of

HEAD OF THE LASKER CHILD PSYCHIATRY DEPARTMENT

of the Rothschild Hadassah University Hospital in Jerusalem, with a view to candidature also for senior academic appointment in the Hebrew University Hadassah Medical School. The post is preferably a full-time one at an approximate gross salary of £1,650 per month, including cost of living and family allowances. In addition, the physician has the right of limited practice within the hospital; alternatively, a part-time appointment with right of private practice will be considered. Accommodation at a moderate rental will be made available to the successful candidate. Enquiries and applications, accompanied by curriculum vitae, copies of publications, and names of three references, should reach the Director General, Hadassah Medical Organization, P.O.B. 499, Jerusalem, Israel, by February 28, 1957. (7350)

SARNIA GENERAL HOSPITAL
Sarnia, Ontario, Canada

RADIOLOGIST

required immediately as assistant to Director of Radiology. Well established hospital, 265 beds. Modern department. Must be eligible for certification by Royal College of Physicians and Surgeons of Canada in diagnosis. Commission basis with maximum of $15,000 per annum. Age limits between 30 and 40. Write Administrator, Sarnia General Hospital, Sarnia, Ontario, Canada. (7156)

THE DOCTOR'S HOSPITAL, New York, U.S.A.

Applications invited for the following posts:

1. **TWO RESIDENT HOUSE SURGEONS**

to take up duties February 1, 1957, or as soon thereafter as possible.

2. **ONE HOUSE PHYSICIAN**

for duties commencing on June 1, 1957.

3. **TWO RESIDENT OBSTETRICAL HOUSE SURGEONS**

for duties commencing on July 1, 1957.

The monthly salary will be $300 with free board, lodging and laundry. Selected applicants will be expected to sign a contract for one year. Return passage by boat or plane will be paid for by the hospital. Only post-registration graduates of British Universities who have done their military service or are exempt from it will be considered. Applications, with copies of two recent testimonials, should be sent to Box 3372, B.M.J., before February 1, 1957, or as soon as possible for the two House Surgeon posts.

THE MONTREAL GENERAL HOSPITAL
Montreal, Quebec, Canada

FELLOW IN DIAGNOSTIC RADIOLOGY

Applications are invited for the post of Fellow in Diagnostic Radiology at the Montreal General Hospital (a Teaching Hospital of McGill University). Duties to commence as soon as possible. Salary $3,000.00 per annum plus full maintenance for unmarried doctor. Applicant must possess D.M.R. Appointment for one year only, not subject to renewal, but successful applicant will be considered after one year appointment for permanent position on staff when salary will be dependent on higher Canadian qualifications in diagnostic radiology. Applications, with full details of internships, age, etc., together with photograph and names of two referees, should be forwarded immediately to the Medical Director. (7355)

THE NEW ZEALAND BRANCH BRITISH EMPIRE CANCER CAMPAIGN

J. R. McKENZIE CANCER RESEARCH FELLOWSHIP

Applications are invited from suitably qualified persons for the above Fellowship. The successful applicant will be required to carry out research in cancer at the Medical School, University of Otago, Dunedin, N.Z., under the supervision of Dr. F. Bielschowsky (Director of Cancer Research). Salary £1,275 to £1,900 per annum according to qualifications and experience. Further particulars may be obtained from the General Secretary, British Empire Cancer Campaign, 11, Grosvenor Crescent, Hyde Park Corner, London, S.W.1. Applications should be forwarded airmail to reach the Secretary, New Zealand Branch, B.E.C.C., P.O. Box 609, Wellington, N.Z., not later than March 15, 1957. (7547)

THE QUEEN VICTORIA MEMORIAL HOSPITAL FOR WOMEN AND CHILDREN
172, Lonsdale Street, Melbourne, Australia

Applications are invited from fully qualified medical women for the position of

DEPUTY MEDICAL SUPERINTENDENT

Salary at rate of £1,600 per annum plus board and residence. Appointee eligible to apply for appointment as Medical Superintendent in March, 1958. Hospital's present bed capacity 411 (public and intermediate)—obstetrics and gynaecology, medical, surgical, paediatrics. Applicants to state age, full details of qualifications and experience, and testimonials. Closing date March 31, 1957.—Nell Stephenson, Manager. (7546)

(Posts Vacant)—contd.

UNIVERSITY COLLEGE, Ibadan, Nigeria

Applications are invited for:

LECTURESHIP IN PAEDIATRICS

Initial appointment 3 years. Salary scale £1,750 to £100 to £2,150 per annum. Entry point determined by qualifications and experience. Allowance (up to £ 1 duty-free £70 per annum per child resident in Nigeria, £100 per annum per child resident elsewhere). Part furnished accommodation at rent not exceeding 7.7% of salary. Passages for appointee, wife and up to 3 children below 21 years, on appointment, overseas leave and termination. F.S.S.U. Outfit allowance £60. Detailed application (10 copies) by February 1, 1957, to Secretary, Senate Committee on Colleges Overseas in Special Relation, University of London, Senate House, London, W.C.1, from whom further particulars may be obtained. (7562)

UNIVERSITY OF MALAYA, Singapore

Applications are invited from medically qualified persons for

ASSISTANT CURATORSHIP

in Department of Pathology. Salary scale £1,200 to £40 to £1,440 to £50 to £1,840 per annum. Point of entry determined by qualifications and experience. Allowances: temporary addition of £200 or £300 per annum, cost of living range £210 to £306 per annum, all paid in Malayan currency. Free passages for appointee, wife and children under 12 years. Part-furnished quarters at reasonable rent. Provident Fund Scheme. Detailed applications (six copies), naming three referees, by February 26, 1957, to Secretary, Inter-Universities Council for Higher Education Overseas, 29, Woburn Square, London, W.C.1, from whom further particulars may be obtained. (7542)

UNIVERSITY OF QUEENSLAND, Australia

MEDICAL RESEARCH FELLOW

Applications are invited from graduates in medicine for a Research Fellowship to undertake research into aetiological aspects of skin cancer. Salary range £A1,700–£A2,300 per annum, with commencing salary according to experience and qualifications. Appointment is initially for one year, renewable annually, subject to satisfactory work, and to be reviewed at the end of three years. Applications close on January 31, 1957, with the Registrar, University of Queensland, Brisbane. Further particulars (including method of application) may be obtained from the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1. (7269)

UNIVERSITY OF WESTERN AUSTRALIA

The Senate of the University of Western Australia is proceeding with the establishment of a Faculty of Medicine and applications are invited for the

CHAIR OF CHILD HEALTH

It is planned to have the new Medical School ready for occupation and teaching in 1957, and appointments have been made to all Chairs except that of Child Health. The salary of the Professor will be £A3,750 per annum, and an allowance is made towards travelling expenses. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1. The closing date for the receipt of applications in Australia and London is March 31, 1957. (7360)

WANTED BY MAY, 1957, DOCTOR TO TAKE charge of Christian General Hospital, for one or two years. Climate good, English spoken. 110 beds. Woman preferred. Apply Medical Superintendent, Church of South India Hospital, Bangalore 1, India. (7154)

WESTERN AUSTRALIA
State Public Service, Mental Health Services

MEDICAL OFFICER (Child Guidance Clinic)

Salary range: £A.2,537 to £A.2,607 (gross) per annum, plus £A.100 if in possession of a Diploma in Psychiatry. Qualifications: Candidates must possess a medical degree registrable in Western Australia. Preference will be given to candidates intending to specialize in child psychiatry who have had some experience in this field and who possess a postgraduate qualification in psychiatry and/or paediatrics. Transport: A reasonable amount will be allowed for transport of appointee and dependent family to Western Australia provided bond is entered into to serve State for a period of at least three years. Conditions of service: Superannuation benefits, long service leave (three months on full pay after each seven years of continuous service), cumulative sick leave and other benefits applicable to permanent public servants. Applications, in duplicate, stating age, marital status, qualifications, and experience, should be addressed by February 2, 1957, to Official Secretary, Agent General for W.A., Savoy House, Strand, London, W.C.2. (7486)

WANTED, A QUALIFIED DIAGNOSTIC RADIOLOGIST for new 224-bed Tuberculosis Sanatorium, Tranquille, 8 miles (13 km.) from Kamloops, British Columbia (Gateway to Cariboo), British Columbia, Canada. Salary $21,000.00. The applicant must be a graduate of a recognized British, Canadian, or American Medical school, and must be able to present a certificate showing completion of 12 months' training in diagnostic radiology or an approved hospital. The successful man, preferably a member of those months' medicine, three months surgery, one month obstetrics and the remaining five months in the various specialties which may include gynaecology. These requirements are standard for application to R.C. The applicant may be permitted an interim certificate for a period of one year after hospital employment ends, following which the Canadian Medical Council examination must be written for permanent registration. Apply Administrator, Provincial Hospital, Tranquille, B.C., Canada. (7557)

UNIVERSITY AND RESEARCH APPOINTMENTS, etc.

APPLICATIONS ARE INVITED FOR THE post of **Research Fellow in Paediatrics** in the Royal Hospital for Sick Children, Glasgow. Salary £1,200. The appointment is for five months but is for one year and may be renewed. Applications, together with the names of three referees, to be sent to the Secretary, Board of Management for Glasgow and District Children's Hospitals, 88, St. Vincent Street, Glasgow, C.2. (7563)

THE MEDICAL COLLEGE OF ST. BARTHOLOMEW'S Hospital, West Smithfield, E.C.1. Applications are invited from registered medical practitioners for the appointment of **Medical Tutor**, tenable as from March 1, 1957. The duties will include the teaching of undergraduate students at Bethnal Green Hospital. The salary is on a scale of £1,500 by £100 to £1,800 per annum, together with children's allowance if the appointment is full-time and a proportionate reduction if the appointment is part-time. Applications, which should be received not later than February 1, 1957, should be addressed to the Dean of the Medical College, from whom further particulars may be obtained. (7424)

THE UNITED NEWCASTLE-UPON-TYNE HOSPITALS
Department of Bacteriology

AN ASSISTANT
(Medical qualification not advantage)

is required to participate in a bacteriological investigation of hospital cross-infection, including the problem of antibiotic resistance. The terms and conditions of service are those appertaining to the National Health Service, tenure of the post being limited to one year in the first instance. The status and salary of the person appointed will be advised according to the qualifications held and previous experience. Applications, giving full details and the names and addresses of two referees, should be sent to the undersigned within two weeks of the appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (7457)

UNIVERSITY OF LONDON

POSTGRADUATE AWARDS FOR MEDICAL AND SCIENTIFIC RESEARCH

Applications are invited from graduates of the University of London for the following awards for full-time research:

HAZEL CLIFFORD POSTGRADUATE STUDENTSHIP

Value of £550 per annum for one year, renewable for a second year, for postgraduate research in medicine or on a scientific topic concerned with the advancement of medical knowledge.

J. F. B. KNIGHT POSTGRADUATE FELLOWSHIP

Value £1,000 a year for two academic sessions, for research into the social, epidemiological or preventive aspects of diseases of adult life.

Forms and further particulars from the Secretary to the Scholarships Committee, Senate House, London, W.C.1, to whom applications must be returned not later than February 15, 1957. (7490)

UNIVERSITY OF OXFORD

RADCLIFFE TRAVELLING FELLOWSHIP, 1957

An Examination for a Fellowship of the annual value of £600, tenable for two years, will be held at Oxford on February 23, 1957. Candidates must have passed all the examinations for the Degree of Bachelor of Arts and Bachelor of Medicine, and must not have exceeded four years (exclusive of national service) from the time of passing the last examination for the Degree of Bachelor of Medicine. The examination will take the form of a self-chosen essay and an interview. Further particulars to be obtained from the Regius Professor of Medicine, 13, Norham Gardens, Oxford. All applications, with essays, must be sent to the Regius Professor of Medicine, 13, Norham Gardens, Oxford, by January 31, 1957. (7490)

UNIVERSITY OF OXFORD
Radcliffe Infirmary, Department of Pathology

Applications are invited for the post of

GRADUATE ASSISTANT

in the department. The successful applicant will take part in the teaching and diagnostic work in the department, but will be principally concerned with the investigation of tissue metabolism and the mammary gland; there will be opportunities for original work. The commencing salary will be within a range from £750 to £1,000, according to qualifications and experience, with family allowance and F.S.S.U. Duties to commence early in 1957. Applications, together with the names of three referees, should be sent, not later than February 1, 1957, to Dr. A. St. T. Richardson, Radcliffe Infirmary, from whom further particulars may be obtained. (7566)

SCHOLARSHIPS

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL

UNIVERSITY RESEARCH SCHOLARSHIP IN CLINICAL MEDICINE

Applications are invited for a University Research Scholarship, value £1,000 per annum, plus superannuation. The Scholarship shall be for one year in the first instance. The scholar must satisfy the Middlesex Hospital Medical School that the major part of his time will be spent in research, but he may be allowed to hold other appointments. The work may be related to any branch of medicine, must be conducted clinically and will be carried out in the Department of Clinical Research attached to the Middlesex Hospital Medical School. Applications, with the names of two referees, and a summary of the proposed work, should reach the Secretary of the Institute of Clinical Research, the Middlesex Hospital Medical School, 48, Riding House Street, London, W.1, not later than January 31, 1957. (7574)

PERSONAL

"CANCER DISTRIBUTION AND ATMOspheric Pollution," price 7s. 6d. (limited edition), from ARO Enfield Ltd., 28, Beverley Road, Enfield, Middlesex. Phone 5353.

"GHOST" WRITER EDITS/WRITES BIOgraphies, Lectures, Papers, Memoirs. Speech Broadcasts, Speeches, etc.—Write Box 1371, B.M.J.

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

PREGNANCY DIAGNOSIS BY THE XENOPUS METHOD. 24-hour service. Send specimen of urine and fee. Haematology, Biochemistry, Urine Photometry.—Wilbeck Biological Laboratories, 59, Park Crescent, Portland Place, W.1. MUS 5381.

EDUCATIONAL AND LECTURES

M.R.C.P. LONDON. Correspondence coaching course recently prepared by experienced tutors, includes help with the clinical examination.—Write, I. Arnold, 189, Regent Street, W.1.

COURSES IN ADVANCED SURGERY

An evening Postgraduate Course in Surgery for the Final Examination of the F.R.C.S. will be held at the London Hospital from March 11 to April 29, 1957. The course will be held on Monday and Wednesday evenings from 6.30 p.m. to 8.30 p.m., with the exception of Monday, April 15, and will be limited to 18 students. Applications should be made to the Dean, from whom further particulars can be obtained. The fee for external candidates will be 16 guineas and for [illegible] Londoners 10 guineas.—H. B. Mac. M.D., F.R.C.P., the Dean, the London Hospital Medical College, Turner Street, E.1. (7480)

MEDICAL CORRESPONDENCE COLLEGE, 19, Wellbeck Street, London, W.1, provides COACHING for all Medical Examinations. D.A., F.F.A., D.P.M., D.O., D.L.O., D.C.H., D.M.R.D., D.P.H., M.R.C.P., F.R.C.S., M.D., thesis and all qualifying exams by a staff of highly qualified Tutors, Honourables, and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

SOCIETY OF APOTHECARIES OF LONDON.—Surgery: January 14, February 11, March 11. Medicine and Pathology: January 31, February 18, March 18. Midwifery: January 23, February 19, March 19. Master of Midwifery: May and November. Diploma in Industrial Health: July and December. For regulations, apply Registrar, Apothecaries Hall, Black Friars' Lane, London, E.C.4.

Educational and Lectures, courses

UNIVERSITY OF LONDON
UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The Institute of Child Health, Guilford Street, W.C.1, will hold a course in paediatrics, suitable for candidates for the Diploma in Child Health, from March 30 to April 10. The course will be held in the wards and out-patient department of the Royal Hospital for Sick Children, Guilford Street, W.C.1, and will be open to medical practitioners who have had at least six months' hospital experience. The fee for the course is £5 5s. Applications should be made to the Director of the Institute of Child Health, 30, Guilford Street, W.C.1.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

UNIVERSITY OF LONDON

ACADEMIC INSTITUTION OF IMPORTANCE TO RATHBONE OF THE UNIVERSITY OF LONDON

The course for the Postgraduate Diploma in Bacteriology for the autumn term will commence on the beginning of October, 1953. The course will cover twelve months, and the lectures, demonstrations and practical work will be held at the Institute of Bacteriology, Royal Free Hospital, Gray's Inn Road, W.C.1. Applications for admission to the course should be made to the Director of the Institute of Bacteriology, Royal Free Hospital, Gray's Inn Road, W.C.1, not later than March 1, 1953. Further information and application forms can be obtained from the Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W.C.1.

UNIVERSITY OF LONDON
INSTITUTE OF ORTHOPAEDICS

Course in

DISORDERS OF BONE

JANUARY 26 TO FEBRUARY 7, 1953

MONDAY, JANUARY 26—THIRD SECTION (Hunt Postgrad Room, W.1)

General Affections of the Adult Skeleton	10.30 H. J. Seddon
Coffee	
The Kidney and Bone Disease	11.30 [illegible]
General Properties of Bone	12.30 J. C. Dent
Lunch (collective)	
Radiology of Secondary Deposits in Bone	2.30 E. H. Kerley
Tea (collective)	

TUESDAY, JANUARY 27—COMBINED SECTIONS (Hunterian Hall, Royal College of Surgeons, Lincoln's Inn Fields, W.C.2)

Chemistry of Bone	10.30 A. H. Wilkins
Coffee	
Metabolic Cases	11.30 [illegible]
Osteopoikilosis	
Lunch	
General Clinical Demonstration	2.15 F. Ellis
Tea	

WEDNESDAY, JANUARY 28—THIRD SECTION

Osteomyelitis	10.30 H. J. Seddon
Coffee	
Bone Bone Infections	11.30 H. J. Seddon
Lunch (collective)	
General Clinical Demonstration	2.30 H. Tillard
Tea (collective)	

THURSDAY, JANUARY 29—COMBINED SECTIONS

Biochemical Diagnosis of Disease Bone Diseases	10.30 A. H. Wilkins
Coffee	
Relations of Bone and Cartilage to Infection	11.30 F. H. Ellis
Lunch	
General Clinical Demonstration	2.30 F. H. Ellis
Tea	

FRIDAY, FEBRUARY 1—THIRD SECTION

Recent Advances in the Pathology of Diseases of Bone	10.30 H. J. Seddon
Coffee	
Bone Tumours (Clinical)	11.30 F. J. Ellis
Lunch (collective)	
Bone Growth	2.30 J. C. Dent
Bone Grafting	
Tea (collective)	

SATURDAY, FEBRUARY 2—THIRD SECTION

Congenital Disorders of the Skeleton	10.30 F. J. Ellis
Coffee	
Miscellaneous Affecting Bone	11.30 H. J. Seddon

Fee for the whole course £5 5s. (or £3 3s. for Fellows, Members and Associates of the Royal College of Surgeons). Fees (payable in advance) should be sent to the Director of the Institute of Orthopaedics, Royal National Orthopaedic Hospital, Stanmore, Middlesex.

BRITISH COLLEGE OF ANAESTHETISTS

BRITISH COLLEGE OF ANAESTHETISTS

Royal Free Hospital, Gray's Inn Road, London, W.C.1

Postgraduate Medical Federation

Oversea (Vacant)—contd.

UNIVERSITY COLLEGE, Ibadan, Nigeria

Applications are invited for

LECTURESHIP IN PAEDIATRICS

initial appointment 3 years. Salary scale £1,700 by £100 to £2,100 per annum. Entry point determined by qualifications and experience. Allowance for up to 3 children £50 per annum per child resident in Nigeria, £100 per annum per child resident elsewhere. Part furnished accommodation at rent not exceeding 7.7% of salary. Passages for appointee, wife and up to 3 children below 11 years, on appointment, overseas leave and termination. F.S.S.U. Outfit allowance £60. Detailed applications (10 copies) by February 1, 1957, to Secretary, Senate Committee on Colleges Overseas in Special Relation, University of London, Senate House, London, W.C.1, from whom further particulars may be obtained. (7543)

UNIVERSITY OF MALAYA, Singapore

Applications are invited from medically qualified persons for

ASSISTANT CURATORSHIP

in Department of Pathology. Salary scale £1,296 by £49 to £1,442/£1,540 by £56 to £1,988 per annum. Point of entry determined by qualifications and experience. Allowances: expatriation in range £280 to £308 per annum, cost of living in range £210 to £506 per annum, all paid in Malayan currency. Free passages for appointee, wife and children under 12 years. Part-furnished quarters at reasonable rent. Provident Fund Scheme. Detailed applications (six copies), naming three referees, by February 28, 1957, to Secretary, Inter-University Council for Higher Education Overseas, 29, Woburn Square, London, W.C.1, from whom further particulars may be obtained. (7542)

UNIVERSITY OF QUEENSLAND, Australia

MEDICAL RESEARCH FELLOW

Applications are invited from graduates in medicine for a Research Fellowship to undertake research into aetiological aspects of skin cancer. Salary range £A1,700/£A2,300 per annum, with commencing salary according to experience and qualifications. Appointment is initially for one year, renewable annually, subject to satisfactory work and to be reviewed at the end of three years. Applications close on January 31, 1957, with the Registrar, University of Queensland, Brisbane. Further particulars (including method of application) may be obtained from the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1. (7209)

UNIVERSITY OF WESTERN AUSTRALIA

The Senate of the University of Western Australia is proceeding with the establishment of a Faculty of Medicine and applications are invited for the

CHAIR OF CHILD HEALTH

It is planned to have the new Medical School ready for occupation and teaching in 1957, and appointments have been made to all Chairs except that of Child Health. The salary of the Professor will be £A3,710 per annum, and an allowance is made towards travelling expenses. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 36, Gordon Square, London, W.C.1. The closing date for the receipt of applications in Australia and London is March 31, 1957. (7369)

WANTED BY MAY, 1957, DOCTOR TO TAKE charge of Christian General Hospital, for one or two years. Climate good, English spoken. 110 beds. Woman preferred. Apply Medical Superintendent, Church of South India Hospital, Banaalore 1, India. (7354)

WESTERN AUSTRALIA
State Public Service, Mental Health Services

MEDICAL OFFICER (Child Guidance Clinic)

Salary range: £A.2,537 to £A.2,607 (gross) per annum, plus £A.100 if in possession of a Diploma in Psychiatry. Qualifications: Candidates must possess a medical degree registrable in Western Australia. Preference will be given to candidates intending to specialize in child psychiatry who have had some experience in this field and who possess a postgraduate qualification in psychiatry and/or paediatrics. Transport: A reasonable amount will be allowed for transport of appointee and dependent family to Western Australia provided bond is entered into to serve State for a period of at least three years. Conditions of service: Superannuation benefits, long service leave (three months on full pay after each seven years of continuous service), cumulative sick leave and other benefits applicable to permanent public servants. Applications, in duplicate, stating age, marital status, qualifications, and experience, should be addressed by February 2, 1957, to Official Secretary, Agent General for W.A., Savoy House, Strand, London, W.C.2. (7486)

WANTED, A QUALIFIED DIAGNOSTIC RADIOLOGIST for new 121-bed Penticton Hospital. Penticton is a city of 12,000 situated at the south end of Lake Okanagan, British Columbia, Canada. Salary $15,000.00. The applicant must be a graduate of a recognized British, Canadian, or American medical school and must be able to present a certificate showing completion of 12 months' general or rotating internship in an approved hospital. The internship must comprise a minimum of three months medicine, three months surgery, one month obstetrics and the remaining five months in the various specialties which must include gynaecology. These requirements are standard for application in B.C. The applicant may be permitted an interim certificate for a period of one year for hospital employment only, following which the Canadian Medical Council examinations must be written for permanent registration. Apply Administrator, Penticton Hospital, Penticton, B.C., Canada. (7357)

UNIVERSITY AND RESEARCH

APPOINTMENTS, etc.

APPLICATIONS ARE INVITED FOR THE post of **Research Fellow in Paediatrics** at the Royal Hospital for Sick Children, Glasgow. Salary £1,200. The appointment in the first instance will be for one year and may be renewed. Applications, together with the names of three referees, to be sent to the Secretary, Board of Management for Glasgow and District Children's Hospitals, 86, St. Vincent Street, Glasgow, C.2. (7552)

THE MEDICAL COLLEGE OF ST. BARTHOLOMEW'S Hospital, West Smithfield, E.C.1. Applications are invited from registered medical practitioners for the appointment of **Medical Tutor,** tenable as from March 1, 1957. The duties will include the teaching of undergraduate students at Bethnal Green Hospital. The salary is on a scale of £1,500 by £100 to £1,800 per annum, together with children's allowance if the appointment is full-time and a proportionate reduction if the appointment is part-time. Applications, which should be received not later than February 1, 1957, should be addressed to the Dean of the Medical College, from whom further particulars may be obtained. (7424)

THE UNITED NEWCASTLE-UPON-TYNE HOSPITALS
Department of Bacteriology

AN ASSISTANT
(Medical qualification an advantage)

is required to participate in a bacteriological investigation of hospital cross-infection, including the problem of antibiotic resistance. The terms and conditions of service are those appertaining to the National Health Service, tenure of the post being limited to one year in the first instance. The status and salary of the person appointed will be adjusted according to the qualifications held and previous experience. Applications, giving full details and the names and addresses of two referees, should be sent to the undersigned within two weeks of the appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (7487)

UNIVERSITY OF LONDON

POSTGRADUATE AWARDS FOR MEDICAL AND SCIENTIFIC RESEARCH

Applications are invited from graduates of the University of London for the following awards for full-time research:

HAZEL CLIFFORD POSTGRADUATE STUDENTSHIP

Value of £550 per annum for one year, renewable for a second year, for postgraduate research in medicine or on a scientific topic concerned with the advancement of medical knowledge.

J. F. H. KNIGHT POSTGRADUATE FELLOWSHIP

Value £1,000 a year for two academic sessions, for research into the social, epidemiological or preventive aspects of diseases of adult life.

Forms and further particulars from the Secretary to the Scholarships Committee, Senate House, London, W.C.1, to whom applications must be returned not later than February 15, 1957. (7496)

UNIVERSITY OF OXFORD

RADCLIFFE TRAVELLING FELLOWSHIP, 1957

An Examination for a Fellowship of the annual value of £600, tenable for two years, will be held at Oxford on February 23, 1957. Candidates must have passed all the examinations for the Degree of Bachelor of Arts and Bachelor of Medicine, and must not have exceeded four years (exclusive of national service) from the time of passing the last examination for the Degree of Bachelor of Medicine. The examination will take the form of a self-chosen essay and an interview. Further particulars to be obtained from the Regius Professor of Medicine, 13, Norham Gardens, Oxford. All applications, with essays, must be sent to the Regius Professor of Medicine, 13, Norham Gardens, Oxford, by January 31, 1957. (5990)

UNIVERSITY OF OXFORD
Radcliffe Infirmary, Department of Pathology

Applications are invited for the post of

GRADUATE ASSISTANT

in the department. The successful applicant will take part in the teaching and diagnostic work of the department, but will be principally concerned with the development of visual instruction and the museum; there will be opportunities for original work. The commencing salary will be within a range from £700 to £1,400, according to qualifications and experience, with family allowance and F.S.S.U. Duties to commence early in 1957. Applications, together with the names of three referees, should be sent, not later than February 1, 1957, to Dr. A. H. T. Robb-Smith, Radcliffe Infirmary, from whom further particulars may be obtained. (7398)

SCHOLARSHIPS

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL

LEVERHULME RESEARCH SCHOLARSHIP IN CLINICAL MEDICINE

Applications are invited for a Leverhulme Research Scholarship, value £1,000 per annum, plus superannuation. The Scholarship shall be for one year in the first instance. The scholar must satisfy the Middlesex Hospital Medical School that the major part of his time will be spent in research, but he may be allowed to hold other appointments. The work may be related to any branch of medicine, must be essentially clinical and will be carried out in the Institute of Clinical Research attached to the Middlesex Hospital Medical School. Applications, with the names of two referees, and a summary of the proposed work should reach the Secretary of the Institute of Clinical Research, the Middlesex Hospital Medical School, 40, Hanson Street, London, W.1, not later than January 31, 1957. (7471)

PERSONAL

"CANCER DISTRIBUTION AND ATMOSPHERIC Pollution," price 2s. 6d. (limited edition) from ARO Enfield Ltd., 28, Byculiah Road, Enfield, Middlesex. 'Phone 5153.

"GHOST" WRITER EDITS/WRITES BIOgraphies, Lectures, Papers, Memoirs, Novels, Brochures, Speeches, etc.—Write Box 3373, B.M.J.

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

PREGNANCY DIAGNOSIS BY THE XENOPUS METHOD. 24-hour service. Send specimen of urine and fee. Haematology, Biochemistry, Flame Photometry.—Welbeck Biological Laboratories, 26, Park Crescent, Portland Place, W.1. MUS 5386-7.

EDUCATIONAL AND LECTURES

M.R.C.P. LONDON. Correspondence coaching course recently prepared by experienced tutors, includes help with the clinical examination.—Write, J. Arnold, 189, Regent Street, W.1.

COURSES IN ADVANCED SURGERY

An evening Postgraduate Course in Surgery for the Final Examination of the F.R.C.S. will be held at the London Hospital from March 11 to April 29, 1957. The course will be held on Monday and Wednesday evenings from 6.30 p.m. to 8.30 p.m., with the exception of Monday, April 22, and will be limited to 18 students. Applications should be made to the Dean, from whom further particulars can be obtained. The fee for external candidates will be 16 guineas and for "Old Londoners" 10 guineas.—H. B. May, M.D., F.R.C.P., the Dean, the London Hospital Medical College, Turner Street, E.1. (7165)

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides COACHING for all Medical Examinations. D.A., F.F.A., D.P.M., D.O., D.L.O., D.C.H., D.M.R.D., D.P.H., M.R.C.P., F.R.C.S., M.D., thesis and all qualifying exams by a staff of highly qualified Tutors, Honoursmen, and Gold Medalists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

SOCIETY OF APOTHECARIES OF LONDON.—Surgery: January 14, February 11, March 11. Medicine and Pathology: January 21, February 18, March 18. Midwifery: January 22, February 19, March 19. Master of Midwifery: May and November. Diploma in Industrial Health: July and December. For regulations, apply Registrar, Apothecaries Hall, Black Friars' Lane, London, E.C.4.

Educational and Lectures—contd.

INSTITUTE OF CHILD HEALTH UNIVERSITY OF LONDON

SIMPSON-SMITH MEMORIAL PRIZE

The Institute of Child Health is offering a Simpson-Smith Memorial Prize for 1957 for the best dissertation or essay on "**Aspects of the treatment of congenital malformations of the lower urinary tract.**" Competition for the Simpson-Smith Prize is open to men and women who are members of the British Commonwealth or the Republic of Ireland and who have been qualified for not more than 15 years. In assessing the merit of the dissertation originality in both experimental and clinical observation will be regarded as of the highest importance. The prize will consist of a money award of 100 guineas. A copy of the rules can be obtained from the Secretary, Institute of Child Health, the Hospital for Sick Children, Great Ormond Street, London, W.C.1. Essays submitted for the 1957 prize must be received by the Secretary of the Institute not later than August 31, 1957.—G. H. Nevins, Dean. (7400)

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

ACADEMIC POSTGRADUATE DIPLOMA IN BACTERIOLOGY OF THE UNIVERSITY OF LONDON

The course for the Postgraduate Diploma in Bacteriology for the session 1957-58 will commence at the beginning of October, 1957. This is a full-time course extending over one academic year (approximately nine months). The course is open to: (a) Graduates in Medicine, Science and Pharmacy of this or another approved University whose previous training has, in the opinion of the University, fitted them to profit by the course. (b) Registered Medical Practitioners and other students who, though not graduates, have obtained a qualification and undergone a previous training which, in the opinion of the University, has fitted them to profit by the course. Applications for admission to the Diploma Course must be received not later than March 1, 1957. Further information and application forms can be obtained from the Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, (Gower Street), London, W.C.1. (7528)

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS.

Examination successes 1940-1955: M.R.C.P.Lond., 234; F.R.C.S.Eng., Primary, 185; F.R.C.S.Eng., Final, 262; M. and D.Obst. R.C.O.G., 312; D.A., 262; D.C.H., 183; University and Conjoint Finals, 751. Up-to-date courses for the M.D.Lond., M.R.C.P.Edin., F.R.C.S.Edin., D.P.H., F.F.A., D.P.M. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to G. E. Oates, M.D., M.R.C.P.(Lond.), University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. 'Phone: HOLborn 6313.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Raymond Daley, Esq., M.D., F.R.C.P., will deliver the Goulstonian Lectures on Thursday, January 17, and Tuesday, January 22, 1957, at 5 p.m. at the College, Pall Mall East, S.W.1. Subject: "**The Autonomic Nervous System in its Relation to some Forms of Heart and Lung Disease.**" Any member of the Medical Profession admitted on presentation of card.—By order of the President, Harold Boldero, Registrar. (7422)

UNIVERSITY OF ABERDEEN

FORTNIGHT'S GENERAL INTENSIVE REFRESHER COURSE FOR MEDICAL PRACTITIONERS

A fortnight's intensive course, intended mainly for General Practitioners, will be held from May 13 to 25, 1957, in the University Medical Buildings, Foresterhill, and the associated hospitals in Aberdeen. There are schemes for financial assistance whereby the fee for the Course (ten guineas), and the expenses of travelling and of the provision of a locum may, subject to certain conditions, be repaid to doctors engaged in practice under the National Health Service. Numbers attending the course will be limited and early application should be made to the Chairman, Postgraduate Medical Committee, Department of Medicine, University Buildings, Foresterhill, Aberdeen, from whom further information may now be obtained. (7488)

UNIVERSITY OF LONDON. A COURSE OF two lectures on "**The Physiology of the Plasma Proteins**" will be given by Professor C. A. Janeway (Harvard) at 5 p.m. on January 10 and 11 at St. Mary's Hospital Medical School (Wright-Fleming Institute Theatre), Paddington, W.2. Admission free, without ticket.—James Henderson, Academic Registrar. (7371)

UNIVERSITY OF LONDON INSTITUTE OF ORTHOPAEDICS

Course in

DISORDERS OF BONE

JANUARY 28–FEBRUARY 2, 1957

MONDAY, JANUARY 28—TOWN SECTION (234, Great Portland Street, W.1)

General Affections of the Adult Skeleton	MR. H. J. BURROWS
Coffee	
The Kidney and Bone Disease	DR. R. NASSIM
General Properties of Bone	DR. H. A. SISSONS
Lunch (refectory)	
Radiology of Secondary Deposits in Bone	DR. E. H. ALLEN
Tea (refectory)	

TUESDAY, JANUARY 29—COUNTRY SECTION (Brockley Hill, Stanmore, Middx.)

Chemistry of Bone	DR. P. G. WALKER
Coffee	
Metabolic Cases	DR. R. NASSIM
Osteoporosis	DR. F. H. STEVENSON
Lunch	
General Clinical Demonstration	MR. J. I. P. JAMES
Tea	

WEDNESDAY, JANUARY 30—TOWN SECTION

Osteomyelitis	MR. H. J. SEDDON
Coffee	
Rare Bone Infections	MR. H. J. SEDDON
Lunch (refectory)	
General Clinical Demonstration	MR. D. TREVOR
Tea (refectory)	

THURSDAY, JANUARY 31—COUNTRY SECTION

Biochemical Diagnosis of General Bone Diseases	DR. P. G. WALKER
Coffee	
Response of Bone and Cartilage to Infection	DR. C. H. LACK
Lunch	
General Clinical Demonstration	MR. P. H. NEWMAN
Tea	

FRIDAY, FEBRUARY 1—TOWN SECTION

Recent Advances in the Pathology of Tumours of Bone	DR. H. A. SISSONS
Coffee	
Bone Tumours (Clinical)	MR. K. I. NISSEN
Lunch (refectory)	
Bone Repair	DR. H. A. SISSONS
Bone Grafting	MR. J. N. WILSON
Tea (refectory)	

SATURDAY, FEBRUARY 2—TOWN SECTION

Congenital Disorders of the Skeleton	MR. A. T. FRIPP
Coffee	
Reticuloses Affecting Bone	DR. R. O. MURRAY

The fee for the course (including coffee, lunch, and tea) is 7 guineas. Early application should be made to the Dean, at 234, Great Portland Street, London, W.1.

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